PUBLIC VERSION

BEFORE THE
SURFACE TRANSPORTATION BOARD
STB Docket No. 42088

WESTERN FUELS ASSOCIATION, INC. AND
BASIN ELECTRIC POWER COOPERATIVE, INC.
v.
BNSF RAILWAY COMPANY

Reply Evidence and Argument of
BNSF Railway Company

Exhibits

Volume I of I

Richard E. Weicher
Michael E. Roper
BNSF RAILWAY COMPANY
2500 Lou Menk Drive
Fort Worth, TX 76131
(817) 352-2353

Samuel M. Sipe, Jr.
Anthony J. LaRocca
Linda S. Stein
STEPTOE & JOHNSON LLP
1330 Connecticut Ave, N.W.
Washington, DC 20036
(202) 429-3000
ATTORNEYS FOR
BNSF RAILWAY COMPANY

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BNSF Reply Exhibit II.A-1

Exhibit Redacted

BNSF Reply Exhibit II.A-2

Exhibit Redacted

BNSF Reply Exhibit II.A-3

Exhibit Redacted

B. THE BOARD SHOULD ADOPT BNSF'S VARIABLE COST CALCULATIONS

The focus of BNSF's Rebuttal Narrative is the proper calculation of variable costs for the issue traffic. Most of the issues relevant to that calculation are addressed in detail in the Narrative and there is no need to repeat or summarize them here. There are two variable cost issues, however, that BNSF addresses in the Argument because they raise significant policy concerns. The first issue involves the proper calculation of road property variable costs.

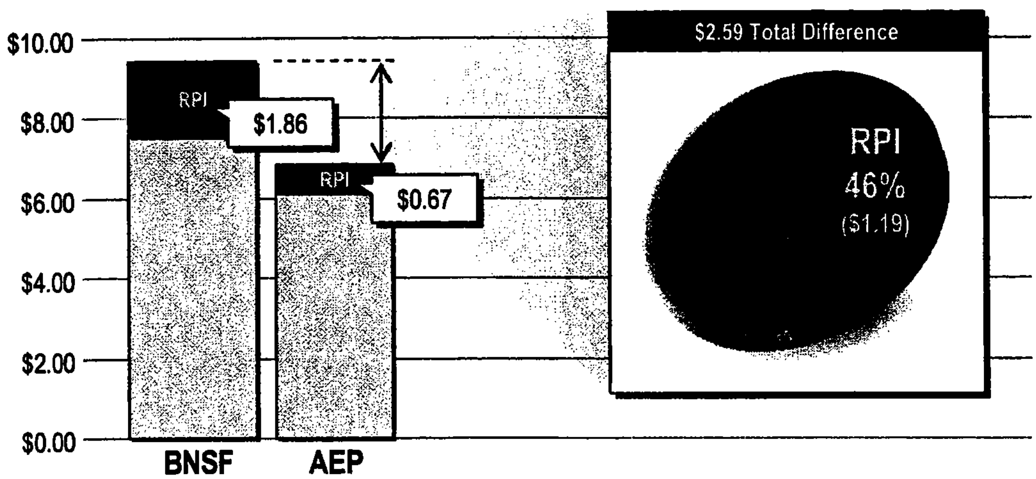
1. AEP Texas' Purported Movement-Specific Road Property Calculation Dramatically Understates BNSF's Costs

The single most important difference in the parties' respective calculations of variable costs involves the calculation of BNSF's variable road property costs -- its return on investment and depreciation. In this case, BNSF calculates those variable costs for movements from

Buckskin Mine in Third Quarter 2001, a representative movement, to be $1.86 per ton, or 20 percent of the total variable costs for the issue traffic movement. AEP Texas calculates those variable costs to be $0.67 per ton, or 10 percent of its estimate of the total variable costs. Figure 1 compares the parties' resulting road property costs and illustrates that this difference represents more than 45 percent of the total difference between the variable costs calculated by the parties.

FIGURE 1

AEP Texas' Supposed Route-Specific Road Property Calculation Accounts For Nearly Half Of The Difference Between The Parties



The critical importance of this issue is beyond dispute, particularly in a case like this where there is a serious question about the Board's jurisdiction under the quantitative market dominance standard to review the reasonableness of the challenged rate. The Board will have to address this issue carefully in this case.

AEP Texas' Reply Evidence presents variable road property costs on the specific route used by the issue traffic that are only a little more than a third of BNSF's system-average road property variable costs. AEP Texas argues that this substantial reduction in the variable road property costs per gross ton-mile (GTM) below the system-average on the issue traffic route is to be expected due to the high traffic densities on that route. AEP Texas Reply Nar. At II-A-34. But, as discussed in more detail below, the variable road property costs per GTM developed using the Board's URCS methodology should not change based on the density of a line. Economies of density result from the spreading of *fixed* costs over an increasing traffic base. The URCS principles that lead to this conclusion are straightforward. Under URCS, fixed costs per unit of traffic will be substantially lower on high density lines, reflecting economies of density, but per unit variable costs should not change significantly. These principles are discussed in detail below.

AEP Texas' calculations are based on bad data and bad theory. The data employed by AEP Texas are from a BNSF internal database that is not compatible with the R-1 data relied upon by URCS. As BNSF explained to AEP Texas when it produced those data, the internal database does not include all road property expenditures on particular line segments. Moreover, BNSF does not attempt to maintain accurate data for those expenditures that are included in the database on a route-specific basis. AEP Texas then uses these data to produce an alleged movement-specific road property calculation by applying a flawed methodology that completely ignores the relationship between the variability of road property costs and density. The Board cannot accept a movement-specific variable cost calculation that rests on such a flawed foundation.

BNSF acknowledges that in recent cases the Board has accepted road property calculations similar to those sponsored by AEP Texas here. BNSF does not believe that the Board fairly addressed BNSF's concerns in those cases with the methodology used to produce the supposed movement-specific road property costs. The Board ignored altogether BNSF's concerns over the use of inappropriate depreciation calculations to produce net investment in road property that is far below the cost reported in BNSF's R-1. The Board also avoided any substantive discussion of BNSF's economic analysis of the need to use higher variability percentages on line segments with higher than average densities. BNSF is very disturbed by the Board's refusal to address this critical issue on substantive grounds. The principles are straightforward and they lead directly to the conclusion that AEP Texas' proposed road property variable costs are a gross distortion of BNSF's costs on the high-density lines at issue. BNSF therefore sets out once again its position on these issues below and asks that the Board fully address them in this case. The evidence supporting this discussion has been set out in detail in prior submissions.

a. <u>AEP Texas Has Failed To Show That Its Movement-Specific Adjustment Is Demonstrably Superior To An URCS-Based System-Average Variable Road Property Calculation</u>

In determining whether it has jurisdiction to review the reasonableness of a challenged rate, the Board is required to carry out a variable cost analysis using URCS. *See* 49 U.S.C. §10707(d)(1)(B). The Board has acknowledged that "[t]he statute specifically envisions use of URCS to determine variable costs in rate cases. . . ."[3]

URCS is a costing methodology that is based on a railroad's system-wide data, as reported in its R-1, and on system-average unit costs derived from that data. URCS was designed "to develop, in a reasonably simple and inexpensive way, reliable *average* cost estimates."[4] Accordingly, an URCS variable cost calculation for a particular movement starts out with average unit costs and presumes that those unit costs are appropriate for the movement at issue. Modifications to these system-average costs to account for movement-specific

[3] *PEPCO*, slip op. at 3.

[4] *Review of General Purpose Costing System*, Ex Parte No. 431 (Sub-No. 2), 1997 WL 600068, at *1 (STB served Oct. 1, 1997).

characteristics are only accepted if the "proposed change represents an improvement over current costing procedures."[5] In the *1996 Decision* in this case, the Board explained that

> we use system average costs in our calculations except where a special study is clearly shown to be more representative of the service being provided to [the shipper] than the system-average data.[6]

Similarly, the ICC explained in adopting URCS that adjustments to URCS would be considered only "in specific cases where their superiority is proven."[7]

To demonstrate the superiority of any route-specific calculation of road property variable costs, a complainant must satisfy two requirements: (1) the calculation must start with accurate route-specific data on the investments in the line segments at issue, and (2) the calculation must use a valid variability factor to determine the amount of that route's total investment that is variable. If the complainant cannot meet either requirement, it would be impossible to conclude that the movement-specific calculation is reliable, let alone superior to a system-average calculation that is presumed under URCS to be appropriate. AEP Texas' evidence fails on *both* accounts.

b. <u>BNSF'S Internal FADB Data Cannot Be Used To Produce A Reliable Route-Specific Assessment Of Either Gross Or Net Investment</u>

The first flaw in AEP Texas' approach to calculating a supposed movement-specific road property variable cost is that AEP Texas uses internal BNSF data that are not accurate on a segment-specific basis and are not consistent with the R-1 data on which URCS calculations are

[5] *Id.*

[6] *1996 Decision*, 1 S.T.B. at 678.

[7] *Adoption of the Uniform Rail Costing System As a General Purpose Costing System for All Regulatory Costing Purposes*, Ex Parte No. 431 (Sub-No. 1), 5 I.C.C. 2d 894, 899 n. 12 (1989). *See also PEPCO* at 2 n.10.

based.[8] Moreover, use of these internal data understate segment-specific road property costs and the understatement is especially large on high-density lines such as those at issue here. The Board in past cases has failed to recognize the distortions that result when BNSF's FADB database is used to estimate segment-specific road property costs.

i. The FADB Does Not Record All Investment On A Segment-Specific Basis

BNSF's FADB database records gross investments in BNSF's fixed assets. While many gross investments are recorded accurately on a segment-specific, others are not. BNSF's primary concern is that system-wide total investments are accurate. With respect to many categories of investments, BNSF does not even attempt to identify the individual line segment where the investment actually took place. A prominent example involves ballast. Because of the difficult and costly accounting procedures that would be required to record all ballast investments by individual line segments, BNSF often employs a simple "algorithm" that spreads those investments evenly over all line segments in a region on the basis of route miles, even though it is likely that those investments would be concentrated on the high-density lines.[9] Thus, while ballast expenditures are accurate on a system-wide basis, BNSF's simplified allocation in the FADB understates gross ballast investments on high-density line segments, and correspondingly overstates gross investments on low-density lines.

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[8] The problems with the BNSF's FADB database have been described extensively in several pleadings in recent cases. *See* BNSF's Reply to [AEPCO's] Third Motion to Compel, STB Docket No. 42058 (filed April 29, 2002); BNSF's Reply to Otter Tail's First Motion to Compel, STB Docket No. 42071 (filed May 1, 2002); BNSF's Reply to [Public Service Company of Colorado d/b/a Xcel Energy's] Third Motion to Compel, STB Docket No. 42057 (filed April 4, 2002); and various evidentiary filings in *TMPA*, *Xcel*, and *Otter Tail*.

[9] Double- and triple-track line segments that are characteristic of high density lines obviously require more ballast than single-track segments.

A second problem exists with respect to the accounting of BNSF's recent road property investments. BNSF maintains a separate account outside of the FADB for investments that are in service (and therefore recorded in BNSF's R-1) but have not yet been allocated to individual line segments in the FADB – *i.e.*, BNSF's Property In Service Not Unitized account ("PISNU"). The FADB therefore understates BNSF's gross investment in road property (on individual line segments and in total) to the extent those investments are recorded in the PISNU account.

In calculating movement-specific road property variable costs, AEP Texas purports to account for the fact that assets in PISNU are not reflected in the FADB route-specific gross investment data by calculating an adjustment ratio to BNSF's system-average net investment that compares system-wide FADB data to BNSF's system-wide R-1 gross investment *minus* the PISNU investment. As the following diagrams illustrate, however, such an adjustment ratio would be accurate for individual segments *only* if the investment dollars in PISNU are ultimately allocated to individual line segments in direct proportion to each line segment's percentage share of system-wide gross investment.

Figure 2 hypothesizes a system with $330 total investment. $100 has already been assigned to each of the system's three segments, *i.e.*, in the FADB, and $30 is invested in the segments but not yet recorded to individual segments, *i.e.*, in PISNU. To determine segment-specific adjustment ratios, AEP Texas removes the PISNU amount from the total system investment, and then compares that adjusted investment level to only the amounts reported in the FADB for each individual segment. Assuming that each segment carries 10 GTM, AEP Texas' approach would produce FADB investment per GTM of $10 for each segment ($100 / 10 GTM), and $10 for the system ($330 total investment - $30 PISNU = $300 adjusted investment, which divided by 30 total GTM for the system produces $10 / GTM). Thus, Figure 2 shows that such an approach would result in the conclusion that each segment experienced system-average investment per GTM.

FIGURE 2

AEP Texas Excludes Unassigned PISNU Amounts From Total System Investment

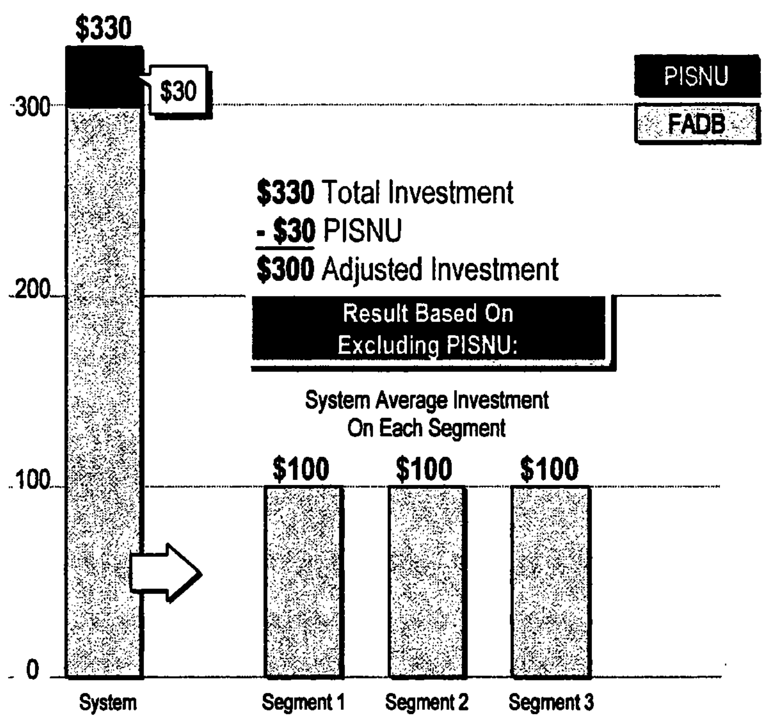


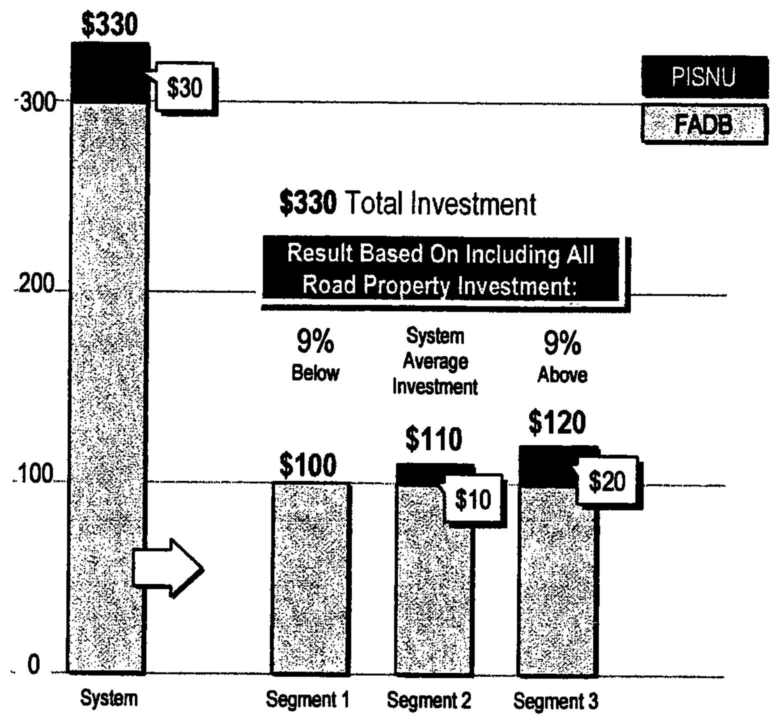
Figure 3 envisions the same system in the hypothetical described above, except that the investments for each line segment includes its proper share of the PISNU expenditures. The hypothetical assumes, consistent with the real world, that PISNU dollars are not spread evenly among all line segments. Instead, segment 2 receives $10, segment 3 receives $20 and segment 1 receives $0. Now, the comparison of each of the segment-specific investments per GTM to the system average indicates that there is one segment with below system-average investment, one at the system-average level, and one above.[10] Figure 3 accurately represents the varying levels of

[10] Including the PISNU in the total investment used to calculate the system average produces a figure of $11 / GTM ($330 total investment / 30 GTM). Accounting for the PISNU

investment in the different line segments, while Figure 2, which represents AEP Texas' supposed fix to the PISNU problem, makes it appear that the investment is the same in each line. In fact, the only segment in which AEP Texas' approach produces accurate results is when the ratio of PISNU to total investment on a particular line segment is exactly equal to the ratio of PISNU to total system-wide investment. In all other circumstances, AEP Texas' approach produces inaccurate estimates of the relative gross investment for specific line segments.

FIGURE 3

There Is Only One Scenario In Which AEP Texas' Approach Produces Accurate Segment-Specific Investment When PISNU Is Included



investments on the individual segments results in total investment per GTM of $10 for Segment 1 ($100 / 10 GTM), $11 for Segment 2 ($110 / 10 GTM), and $12 for Segment 3 ($120 / 10 GTM). Comparing these segment-specific figures to the system-average indicates that Segment 1's investment per GTM is actually 9-percent less than the $11 system average (10/11=0.91), Segment 2's is equal to the system average, and Segment 3's investment is actually 9-percent greater than the $11 system average (12/11=1.09).

It is for this reason that the Board in *WPL* rejected the approach that is advocated by AEP Texas here. In that case, the Board reaffirmed its preference for system-average unit costs as the "most appropriate" treatment and denied efforts to calculate movement-specific adjustments by excluding UP's unassigned investments from the system totals.[11] By using an adjustment ratio that excludes BNSF's PISNU investments from the calculations, AEP Texas is relying on a methodology that was rejected by the Board in *WPL*.[12]

ii. Line-Specific Accumulated Depreciation Developed With The Depreciation Calculator Significantly Overstates Total Accumulated Depreciation Reported In The R-1

Even if the gross investment values in the FADB accurately reflected BNSF's gross investment for individual line segments, the "return" portion of variable road property cost calculations is based on the *net* investment for each individual line segment.[13] Starting with the FADB gross investment for individual line segments, AEP Texas calculates net investment for individual line segments by subtracting a supposed line-specific accumulated depreciation for each line segment from the FADB line-specific gross investment. However, the line-specific accumulated depreciation is estimated using a depreciation calculator that employs a simplistic arithmetic algorithm to apply historical depreciation rates to the investment balances reported to

[11] *WPL, slip op.* at 53-54.

[12] A similar problem exists with certain expenditures contained in BNSF's series 9000 accounts. Those expenditures are never assigned to particular line segments. Any attempt to calculate movement-specific results by removing those expenditures from the system-wide totals produces inaccurate results for the same reasons discussed above.

[13] By definition, net investment for a particular account is the gross investment for that account minus the accumulated depreciation for that account. Net investment represents the amount of the original investment in the assets in that account (*i.e.*, the gross investment of assets in that account) that has not yet been recovered by the investors and on which, therefore, the investors are entitled to earn a return. For a given group of assets, as accumulated investment increases, net investment decreases – until the assets are fully depreciated and net investment equals zero.

each individual line segment. This approach is inconsistent with the way that BNSF calculates accumulated depreciation for the R-1.

In prior cases, as well as in BNSF's Reply Evidence in this case, BNSF has demonstrated why this approach is inappropriate and how it necessarily leads to a significant overstatement of accumulated depreciation. This overstatement of accumulated depreciation results in a corresponding *understatement* of net investment in FADB for the BNSF system as a whole. For those reasons, use of the accumulated depreciation generated by the simplistic depreciation calculator for individual line segments is fatal to any line-specific calculation of road property variable costs that relies on BNSF's FADB data. The Board has completely ignored these concerns in the recent cases. As a result, BNSF is compelled to address again the reasons why the depreciation calculator cannot be used to produce accurate line-specific net investment estimates regardless of the accuracy of the FADB line-specific gross-investment data.

Problem 1: The *methodology* used to calculate line-specific annual and accumulated depreciation in the depreciation calculator is not consistent with the methodology used by BNSF to calculate annual and accumulated depreciation as reported in BNSF's R-1. The Board has approved the use of group-life accounting by BNSF in financial reports, and BNSF's R-1 data therefore contain net investment values obtained by deducting, from system-wide gross investment by account, the system-wide accumulated depreciation developed using group-life accounting. In contrast, the depreciation calculator uses a depreciation methodology akin to straight-line depreciation, which differs significantly from group-life depreciation. Therefore, any comparison of line-specific net investment using the depreciation calculator to system-average net investment developed using group-life depreciation is bound to produce a useless apples-to-oranges result.

Problem 2: Not only is the *methodology* used to develop accumulated depreciation in the FADB significantly different from that used to develop accumulated depreciation in the R-1, the amounts of accumulated depreciation calculated using the two methodologies are radically different. For 2000, the system-wide accumulated depreciation reflected in the FADB (estimated using the depreciation calculator) overstates the system-wide accumulated depreciation for those same assets reflected in BNSF's 2000 R-1 by more than 100 percent.[14] Even if the system-wide gross investment reflected in FADB were fairly comparable to system-wide gross investment reported in the R-1 (after subtracting the PISNU dollars from the R-1 system-wide gross investment amounts), the fact that the system-wide accumulated depreciation reflected in FADB is overstated by a factor of *two* means that system-wide *net* investment must be *understated* by a comparable amount. This is illustrated in the following simple diagram for BNSF's road property assets included in the FADB.

[14] The problems with the depreciation calculator are discussed in detail in the Verified Statement of Cami A. Elliott, included in BNSF Reply Exhibit II.A-4. This comparison can only be made on a system-wide basis since the accumulated depreciation based on the group-life methodology and reported in the R-1 is determined for each account only as system-wide totals.

FIGURE 4

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Since the gross-ton-miles are the same for both the R-1 and FADB investments, the apparent net investment per gross-ton-mile is more than 20 percent lower when the FADB is used, thus necessarily producing an understated estimate of road property variable cost.

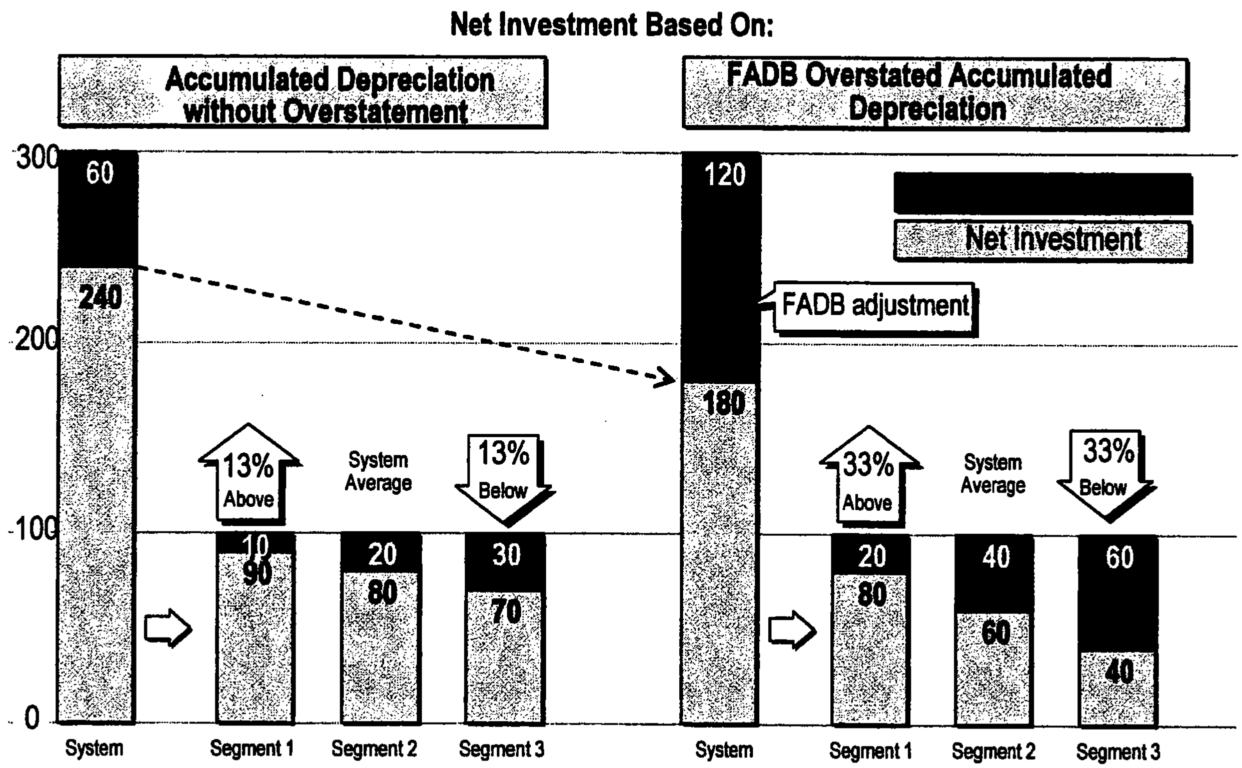
Problem 3: This overstatement of depreciation (and corresponding understatement of net investment) cannot be fixed. Although AEP Texas has not done so in this proceeding, in prior rate cases shippers have acknowledged this overstatement of accumulated depreciation when the FADB is used. But there is no way to address the inconsistency between the FADB and the R-1 by calculating line-specific accumulated depreciation on a group-life basis. Group-life accumulated depreciation is developed and reported in the R-1 only on a system-wide basis. Thus, instead of trying to produce accurate segment-specific depreciation estimates, complainants have proposed to adjust the system-wide net investment in the R-1 purportedly to make it comparable to the net investment shown in the FADB by subtracting the overstated FADB accumulated depreciation from the R-1 gross investment. The result is an inaccurate and understated system-average net investment per gross ton-mile, which the complainants then use as the benchmark for developing line-specific adjustment ratios based on the FADB data.

Even if the FADB reflected accurate *gross* investment for individual line segments (which, for the reasons described above, it does not), the following diagram demonstrates that the methodology that shippers have used in other cases to allegedly compensate for the substantially overstated FADB accumulated depreciation would correctly develop net investment for individual line segments *only* if the relationship between accumulated depreciation (accurately calculated) and accumulated depreciation –as calculated by the FADB – were *identical* for *every* line segment on the system.

Figure 5 below hypothesizes a system with three segments to illustrate the inability to produce an accurate net investment calculation using the FADB data and an overstated depreciation assumption. The left side of the figure presents the segment-specific net investment relative to the system-average based on an accurate measure of accumulated depreciation (assuming it were possible to calculate segment-specific depreciation using group-life principles). In this example, each of the three segments has $100 in gross investment but each segment has been depreciated to a different extent. Specifically, Segment 1 is 10 percent depreciated, Segment 2 is 20 percent depreciated, and Segment 3 is 30 percent depreciated. Assuming 10 GTM for each segment results in net investment per GTM for the three segments of $9 ($90 net investment / $10 GTM), $8 ($80 / $10 GTM), and $7 ($70 / $10 GTM), respectively. The system-average net investment per GTM is $8 ($300 total gross investment - $60 accumulated depreciation = $240 net investment, which divided by 30 total GTM for the system produces $8 / GTM). Thus, the relative segment-specific net investment is 13-percent above system-average for Segment 1 ($9 / $8 = 1.125), equal to system-average for Segment 2 ($8 / $8 = 1.000), and 13-percent below system-average for Segment 3 ($7 / $8 = 0.875).

FIGURE 5

Any FADB Adjustment To System-Wide Accumulated Depreciation Significantly Distorts Segment-Specific Results



The right side of the chart presents the impact of using overstated FADB accumulated depreciation estimates to develop segment-specific net investment figures. The example illustrated above assumes that accumulated depreciation is doubled, slightly less than the extent to which BNSF's FADB calculator overstates accumulated depreciation in road property. As a result, the relative net investment per GTM is lower on each segment, decreasing to $8 ($80 / 10 GTM), $6 ($60 / 10 GTM), and $4 ($40 / 10 GTM) for the Segments 1 through 3, respectively.

The adjustment to make the accumulated depreciation for the system compatible with the overstated accumulated depreciation on each segment also produces a lower system-average net investment per GTM, down from $8 with the actual accumulated depreciation to $6 ($300 total gross investment - $120 adjusted accumulated depreciation = $180 net investment, which divided by 30 total GTM for the system produces $6 / GTM). However, as indicated above, the only segment for which the adjustment to system-average net investment would be the same is Segment 2, which remains at the system-average level. For any other segment, the results would change. In fact, the results of the supposed correction would be to produce a more extreme reduction or increase on segments that were not already at the system average.[15]

The only conclusion to be drawn from this example is that there is no way to correct for the inconsistency between the depreciation calculated on a segment-specific basis and the Board-approved group-life depreciation calculated at the system level. The approach that has been attempted in the past produces inaccurate results that may dramatically understate net investment on issue traffic lines.

Problem 4: The overstatement of depreciation using the simplistic depreciation calculator is particularly large on high-density lines as a result of early retirements. This issue is technically complex, and it is described in detail by BNSF's General Director for Property Accounting and Capital Reporting, Cami A. Elliott in her Verified Statement, which was included as BNSF Reply Exhibit II.A-4. It is clear from Figure 5 above that the overstatement of

[15] For example, comparison of Segment 1's $8 of net investment per GTM cost to the system-average adjusted for the overstated accumulated depreciation of $6 produces a 33-percent increase to system-average net investment ($8 / $6 = 1.33), when in fact the actual increase for this segment should be only 13 percent, as calculated above with the correct measure of accumulated depreciation ($9 / $8 = 1.125).

depreciation on high-density lines is likely to produce a substantial understatement of net investment on those lines.

Problem 5: Mr. Fisher and Ms. Newland further demonstrate below in Section II.A.1.c.i.(b) of the Narrative that any attempt to correct for the inconsistency between the overstated segment-specific accumulated depreciation and the system-wide accumulated depreciation results in an understatement of net investment on a railroad's lines when some, but not all, of a railroad's line segments are subject to a recent purchase accounting write-up. As explained further in the Narrative, the adjustment described above takes the depreciation corresponding to the purchase accounting adjustment and spreads it over all assets, including line segments at issue here that did not receive a purchase accounting write up. This results in an overstatement of depreciation on the issue traffic line segments and an understatement of net investment on those lines.

c. A Variability Factor Much Higher Than 50 Percent Must Be Used To Calculate Road Property Variable Costs On High Density Lines

The second problem with AEP Texas' purported movement-specific road property calculation is that it improperly assumes that the system-average variability percentage used in URCS should be applied in developing line-specific variable costs. It is disingenuous to claim that AEP Texas' calculations are superior to URCS when AEP Texas is relying on the URCS system-average variability that is inapplicable to the line segments at issue.

As discussed below, the 50 percent variability percentage used in URCS to calculate a BNSF *system-average* road property variable unit cost cannot be used to determine the variable costs of an *individual line segment* with densities that are significantly different from the railroad's system-average density. It is irrefutable that use of a 50 percent variability assumption on the high-density line segments at issue here produces an incorrect calculation that understates

BNSF's road property costs. Indeed, in the *TMPA* decision, the Board recognized that BNSF had raised a serious issue with respect to the proper treatment of the variability percentage in making a movement-specific road property calculation.[16] While the Board did not resolve the issue there because the record was not adequately developed, BNSF did present extensive evidence on the variability issue in the *Xcel* case. The Board's *Xcel* decision avoided any discussion of the merits of BNSF's arguments. The Board must carefully address this issue here.

To understand the distortions that are created by the use of the system-average 50 percent variability factor to generate line-specific variable unit costs on high-density lines, it is necessary to review the process by which variable costs are calculated under the Board's URCS methodology.

Railroads report total costs for particular categories of costs (*e.g.*, road property investment) without distinguishing between the "variable" and "non-variable" portions of the total costs. Therefore, to develop variable cost calculations from a railroad's reported data, it is necessary to apply a variability factor or percentage to total reported costs to determine the portion of those costs that are variable. Under URCS, the variability percentage to be applied is different for different cost categories. Most of the variability percentages were derived from regression analyses carried out in the 1980s, although in some cases the variability factors are a legacy of earlier studies. Once the total variable costs for a particular cost category are determined, using the variability percentages, a unit cost is derived by dividing those total system-wide variable costs by the total system-wide number of relevant output units (*e.g.*, gross-ton-miles). The resulting system-wide URCS unit costs can then be used to develop variable

[16] *TMPA*, slip op. at 56 n. 94.

costs for a particular movement by applying them to the quantities of the relevant output units (*e.g.*, gross-ton-miles) associated with an individual movement.

In some cases, it may be possible to calculate a more precise variable unit cost from a subset of the railroad's cost data in lieu of using the railroad's system-average unit cost. For example, it might be possible to identify a railroad's total road property gross and net investment associated specifically with a particular route used by the issue traffic (although, as discussed above, BNSF's FADB database cannot be used for this purpose). If accurate gross and net investment data were available for the line segments comprising the specific route used by the issue traffic, it would theoretically be possible to determine the variable costs for the route at issue. Those route-specific total variable costs could then be divided by the route-specific total output units to create a unit cost that would be a more precise alternative to the application of a system-average unit cost. To do so, however, it would still be necessary to determine the portion of the total gross and net investment amounts, for each line segment comprising the particular route, that should be treated as "variable" (*i.e.*, attributable to changes in the level of the output variable experienced on each line segment comprising the particular route). This requires the use of a variability percentage that is appropriate for each line segment on the particular route.

In the area of road property costs, URCS applies a 50-percent variability factor when road property variable costs are derived from a railroad's system-wide data. But this does not mean that road property costs are 50 percent variable on all of the railroad's individual lines regardless of the density of the line. As shown in Figure 6 below, use of a 50 percent variability percentage on all lines would suggest that fixed costs actually vary with changes in traffic volumes. But this assumption is directly inconsistent with URCS, which defines *variable* costs as those costs that change with changes in traffic. Fixed costs are those costs that remain fixed regardless of changes in traffic volumes.

FIGURE 6

AEP Texas Assumes That Road Property Costs Are 50 Percent Variable On Every Segment, Regardless Of Density

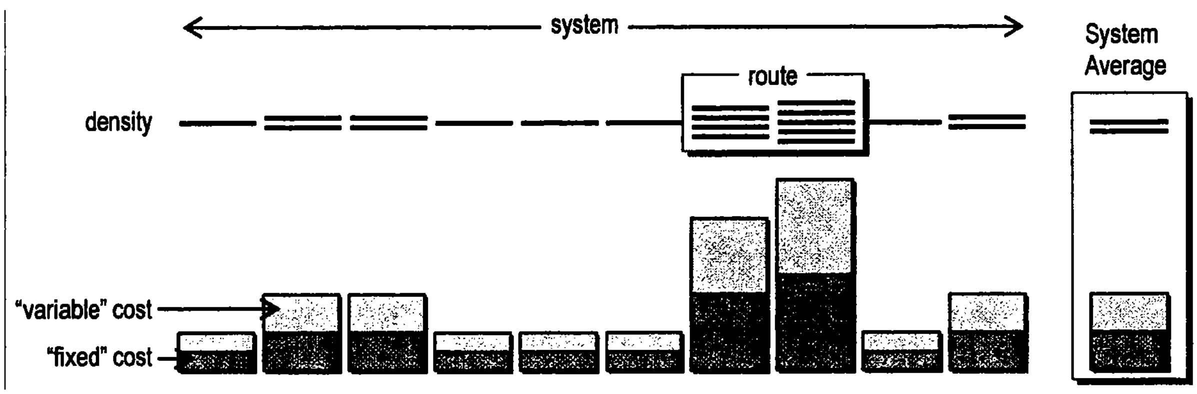


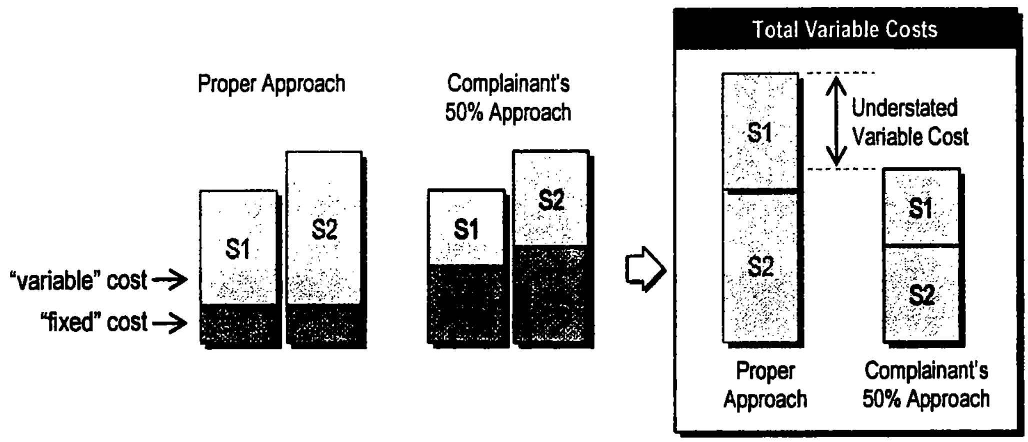
Figure 6 depicts the approach advocated by AEP Texas in this proceeding. AEP Texas starts with line segment-specific data on total investment for line segments comprising the AEP Texas route, which have densities per route mile that are substantially in excess of system-average densities. AEP Texas then multiplies these total investments by the system-average percent variable of 50 percent used in URCS to calculate the variable portion for each line segment in the AEP Texas route – regardless of each line segment's gross ton-mile per route mile density. AEP Texas then divides this cost by the gross ton-miles on each segment. AEP Texas uses this supposed route-specific cost per GTM to develop an adjustment ratio that is applied to the URCS system-average variable road property unit costs to produce a supposed line-specific variable road property unit cost.

However, Figure 6 makes it clear that there is something wrong with AEP Texas' approach. Using the AEP Texas methodology, the non-variable (or "fixed") costs increase when density increases, and decrease when density decreases. But this is not consistent with the logic of URCS because URCS defines "variable costs" as those costs that increase or decrease as the quantity of output (in this case, gross ton-miles) increases or decreases. The "fixed" costs are defined as those costs that remain the same regardless of the level of density.

In fact, it is a fundamental principle of the Board's URCS methodology that variability increases with increases in the ratio of the URCS output variable to the URCS capacity variable, *i.e., variability increases with increases in density*. Therefore, if road property costs are 50 percent variable at the railroad's system-average density, they must be more highly variable on higher density lines. Any attempt to calculate a movement-specific estimate of road property variable costs on higher-density lines by applying the system-average 50 percent variability factor to each line segment used by the movement – as AEP Texas does – will necessarily understate road property variable costs on those higher-density line segments. When the lines at issue are among the highest density lines on a railroad's network -- as they are in this case involving the PRB -- the understatement of costs is extreme. The following Figure 7 shows that AEP Texas' approach necessarily understates variable costs on high-density line segments.

FIGURE 7

AEP Texas' Assumption Significantly Understates The Actual Variable Costs On High-Density Lines



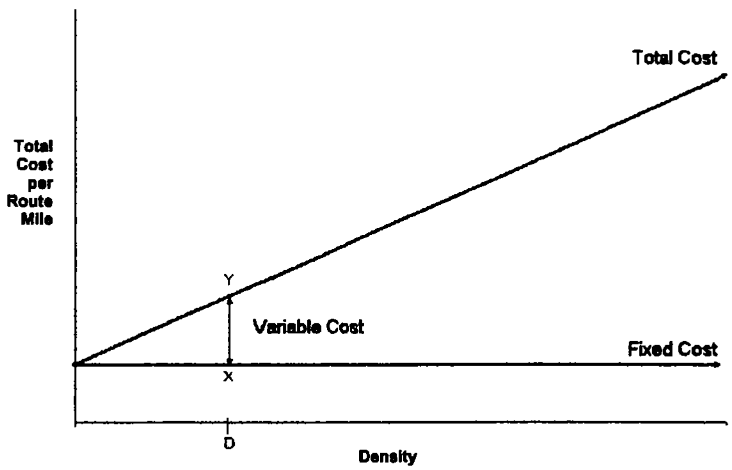
The URCS principle that variability increases as density increases is beyond serious dispute. This principle is the result of three basic assumptions that underlie the Board's URCS cost system. (1) URCS defines "variable" costs as the portion of total costs that vary as traffic levels change. In turn, "fixed" costs are those costs that remain constant regardless of changes in traffic volume.[17] (2) Total costs on a line increase as the traffic density on the line increases. (3) The relationship between total costs and density is linear, *i.e.*, the slope of the total cost line is a constant.[18] These basic principles can be depicted in a simple graph below.

[17] *See Adoption of the Uniform Railroad Costing System as a General Purpose Costing System for all Regulatory Costing Purposes*, ICC *Ex Parte* No. 431 (Sub-No. 1), slip op. at 901 (September 20, 1989) ("In a variety of places, and most particularly in the sections governing the jurisdiction threshold and the apportioning of burdens of proof, the Interstate Commerce Act, as amended by the Staggers Act, uses the term "variable costs." The term is clearly intended to differentiate those costs that change with volume from the fixed costs that rail carriers might endure even in the absence of production . . . The RAPB definition of variable cost is in accord with these well-understood norms.")

[18] *See id.* at 900-901 ("RAPB suggested that the issue of the functional form of the URCS regression equations be given further study before the Commission moved forward with URCS.

FIGURE 8

URCS Recognizes That Total Costs Per Route Mile Increase With Density And That The Relationship is Linear



The flat line above the horizontal axis represents the non-variable, or "fixed" costs. Since these costs do not change with changes in traffic levels -- by definition, they are the non-variable costs -- they remain constant over all density levels. The upward sloping line represents total costs per route mile, which increase as density increases. At density level "D," total variable costs on the line segment equal the difference between total cost "Y" and fixed cost "X." The variability percentage at density level "D" is simply the variable costs divided by the total costs, or ((Y-X)/Y).[19]

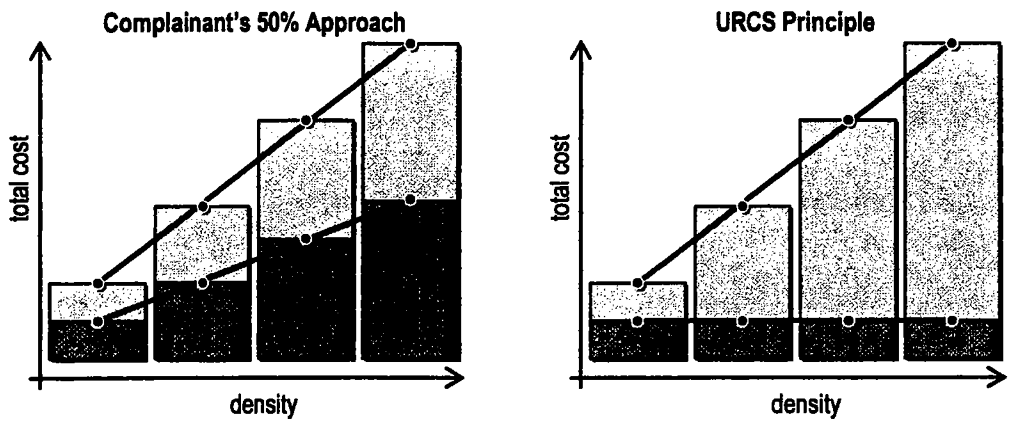
This was done, and for reasons detailed in the *Research Report* and the January NPR, the Commission decided that a linear model would best serve the purposes defined by statute and RAPB.").

[19] The math underlying this graph is straightforward. The basic road property equation used in Rail Form A and carried over into URCS is: total cost = a*route miles + b*GTM. If you divide both sides of the equation by "route miles," the result is: total cost/route mile = a +

The proper relationship between fixed costs, variable costs and density is contrasted below in Figure 9 with the assumption underlying AEP Texas' use of a 50 percent variability factor regardless of density.

FIGURE 9

AEP Texas' Approach Is Inconsistent With URCS Cost Principles



It is clear from both Figures 8 and 9 that the amount of variable costs associated with a particular line segment increases as the density of that line increases. Moreover, because fixed costs remain fixed, the variable portion of total costs (i.e., the variability percentage) also must increase with density.[20] This relationship between density and the variability percentage is illustrated in Figure 10. This relationship is inherent in URCS and it cannot be ignored in

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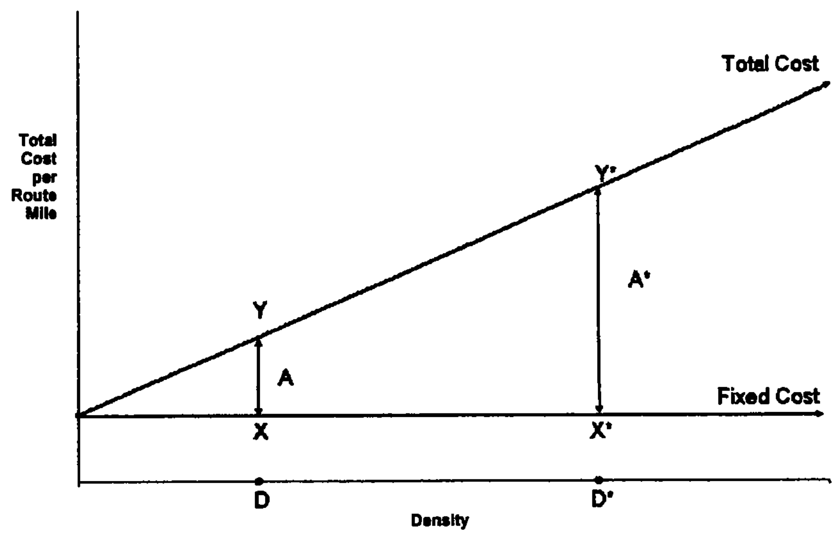
b*GTM/route miles, where "a" is the fixed cost constant and "b" is the variable cost constant that produces the slope of the total cost line. The y axis is total cost per route mile and the x axis is GTM/route miles, or density.

[20] These issues are discussed further in the Verified Statement of John C. Klick at 35-42, included as BNSF Reply Exhibit II.A-4.

making a movement-specific estimate of variable road property costs on a high-density line segment.[21]

FIGURE 10

The Percentage Of Total Costs That Is Variable Must Be Higher At Higher Densities



In the *Xcel* decision, the Board appeared to understand this relationship between density and the variability percentage, *i.e.,* that the percentage of total costs that are variable increases with density. The Board presented a schematic at page 19 of the decision in which it depicted two line segments of different density. The Board's schematic is reproduced below in Figure 11.

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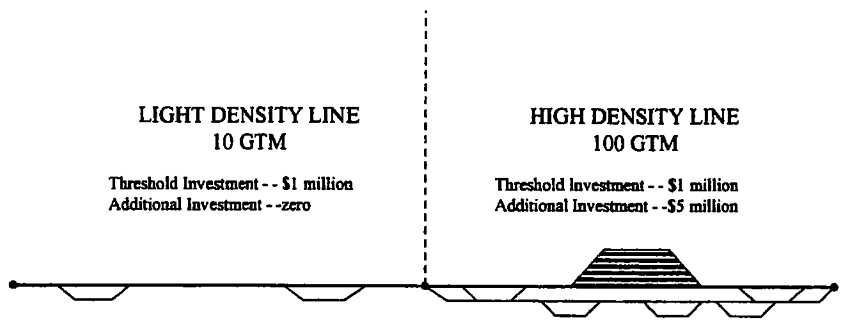
[21] Even though BNSF's FADB data are incomplete and cannot be used for a movement-specific road property cost estimate, BNSF's witness Dr. Mercurio shows in Rebuttal Exhibit II.A-4 that the variability of the FADB data changes with density and that the variability of road property investment is higher on high density lines. Using a regression analysis consistent with the regressions used to produce the URCS cost algorithms, Dr. Mercurio shows that the variability of BNSF's FADB data range from less than 1 percent on lines barely utilized up to 84 percent on BNSF's highest density lines.

FIGURE 11

STB's Road Property Schematic From *Xcel* Illustrating The Relationship Between Density And Variable Costs



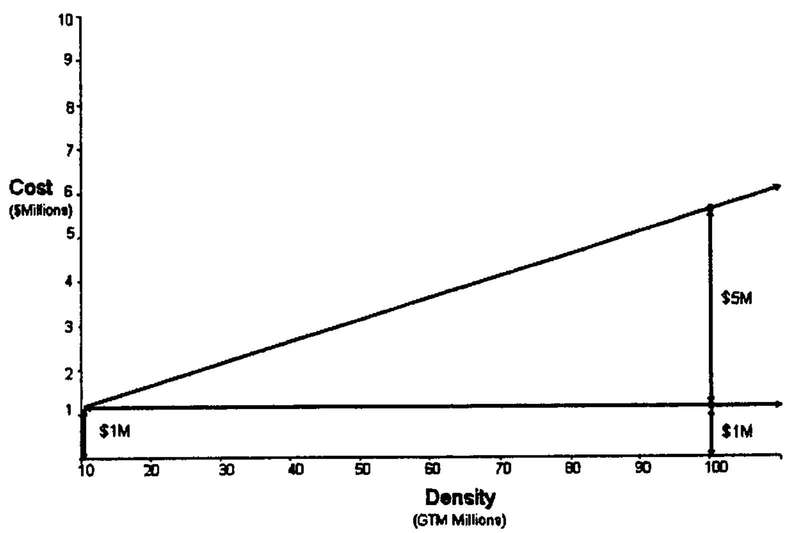
Consistent with URCS, the threshold, or fixed, component of total costs is assumed to be the same on both the low and high density lines -- $1 million. The variable portion of total costs ranges from zero on the light density line to $5 million on the high density line. Total costs increase as density increases, as expected. Similarly, the variability percentage -- the percentage of total costs that is variable -- also increases from zero percent (0/$1 million) to 83 percent ($5 million/$6 million) as density increases.[22] The Board's example is depicted in graphic form in

[22] While the Board correctly depicted the relationship between fixed costs and density in its figure, it drew the wrong conclusion from that figure. The Board claimed that this figure demonstrates that URCS overstates variable costs on low-density lines. This is not correct. Under URCS, the per unit variable cost is the same regardless of the density of the line segment, but the total variable costs on a particular line segment vary widely based on the number of units of traffic, or the density of the line segment. On low-density line segments, there are fewer units of traffic, therefore much lower total variable costs (and lower variability percentages). On high-density line segments, there are more traffic units, more total variable costs and a higher percentage of variable costs relative to the total costs of the line segment. In any event, the Board's conclusion that URCS tends to overstate variable costs on low-density line segments and understate variable costs on high-density line segments is directly contrary to AEP Texas' claim that the road property costs on the high density line segments at issue here are 60 percent *below* the system-average road property variable cost.

Figure 12 below. It is clear that the cost function in the Board's example is consistent with basic URCS principles as depicted in Figures 8 and 10 above.

FIGURE 12

The Board's Road Property Schematic Is Consistent With URCS Principles



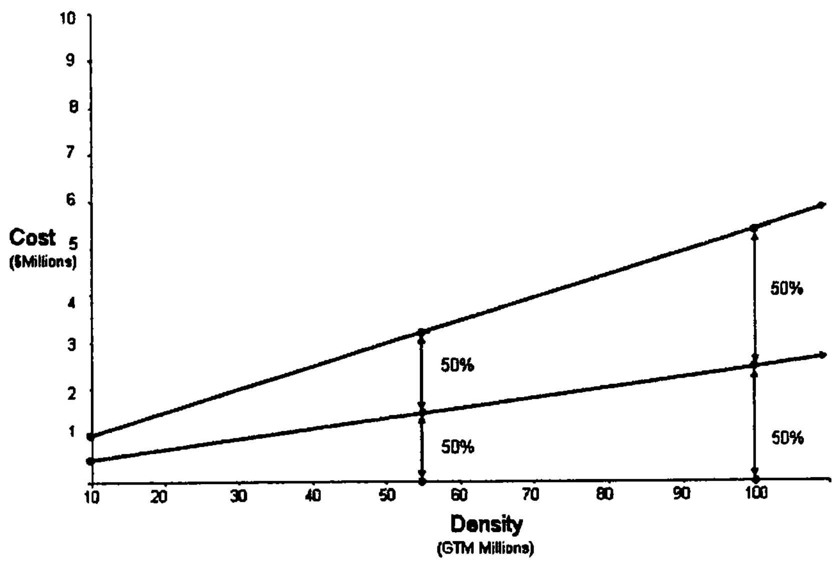
If the Board sought to make a movement-specific calculation of variable road property costs for the high-density 100 GTM line segment depicted in Figure 12, it would start with the $6 million in total costs (a figure presumably derived from the internal records of the railroad) and apply a variability percentage to determine the variable portion of total costs for the line segment. Those variable costs would then be spread over the traffic using that line segment. But the correct amount of variable costs for this segment can be determined only if the correct variability percentage is used. For example, if the Board assumed that the variability percentage for the high-density line segment was 50 percent, the calculations would indicate that variable costs on that line segment are $3 million instead of $5 million. The result would be a substantial understatement of variable costs. The correct variability percentage for the high-density line is

83 percent and use of anything less would produce a flawed estimate of variable costs on that line segment.

URCS uses a 50 percent variability factor when road property variable costs are being determined on a system-average basis. The underlying assumption is that road property variable costs are 50 percent variable at the system-average density level. Thus, there could be some line segments on a railroad's system where the use of a 50 percent variability percentage would be appropriate for a movement-specific calculation, but that would be fortuitous, not conceptually correct. A 50 percent variability factor cannot possibly be correct at all density levels. In fact, the use of a constant 50 percent variability percentage regardless of the density of a particular line is equivalent to an assumption that *all* road property costs vary with changes in traffic volumes. In Figure 13, variable costs are 50 percent of total costs at all density levels. But this Figure makes it clear that all costs are assumed to vary with changes in traffic volume when the same variability factor is used, which is an assumption that is totally inconsistent with URCS.

FIGURE 13

AEP Texas' Assumption Of A Constant Variability Factor Across All Densities Is Inconsistent With The Logic Of URCS And With The Board's Road Property Schematic In *Xcel*



The URCS 50 percent variability factor therefore cannot reasonably be used in making a movement-specific calculation of variable road property costs on high density lines of the type at issue in this case. AEP Texas has not identified the proper variability factor to use, and this failure of proof is fatal to its development of a supposed line-specific road property variable cost calculation. Unless the complainant demonstrates that it has correctly adjusted the variability factor to account for density, the Board is required to rely on URCS system-average calculations as the only approximation of road property variable costs that is consistent with its URCS costing methodology.

Finally, it is necessary to deal with the Board's discussion of the variability issue in the *Xcel* decision. There, the Board accepted a movement-specific calculation of variable road property costs that used the system-average 50 percent variability factor over BNSF's objection sponsored a more precise movement-specific calculation using adjusted variability percentages in these areas, complainants would clearly object because the resulting variable costs would increase. This would create a new set of issues in the already complex litigation of variable costs. By using system-average variability in these areas, BNSF has made a conservative cost calculation that does not prejudice the complainant in any way. It would be extremely unfair for the Board to use this attempt to simplify variable-cost calculations against BNSF. In essence, BNSF has elected to leave a modest amount of money on the table in the area of crew and fuel costs as the price of avoiding contentious litigation on those issues. The Board cannot logically use this litigation decision as the basis for accepting AEP Texas' defective road property calculations.

On the issue of switching costs, BNSF does not believe that it would be appropriate to adjust the variability percentage in making a movement-specific adjustment. To calculate movement-specific switching costs, the parties use the system-average unit cost. An adjusted variability factor is necessary only when a movement-specific or route-specific *unit* cost is being developed. Because the system-average unit cost is used in the movement-specific switching calculation, there is no reason to apply an adjusted variability factor and it would not be appropriate to do so.

BNSF has shown why a route-specific road property variable-cost calculation on high-density lines must take account of the higher variability of costs on high-density lines. The Board cannot avoid addressing the substance BNSF's evidence on this issue by referring to cost calculations where the variability question has never arisen and where the variability percentage would have little effect on the variable-cost calculations.

that the variability factor must be adjusted to account for the higher density on the lines at issue. In supporting its decision, the Board noted that BNSF has made movement-specific adjustments in other cost areas -- specifically in the areas of crew, fuel and switching costs -- without increasing the variability factor to account for the higher densities associated with the route at issue. The Board argued that BNSF has not shown why it is appropriate to make a movement-specific calculation in those areas without adjusting the variability percentage but *in*appropriate to make a movement-specific calculation in the road property area without adjusting the variability percentage.

BNSF acknowledges that as a conceptual matter, a movement-specific calculation of variable costs in the areas of crew and fuel costs should include an adjustment to the variability percentage to be consistent with the logic of URCS. BNSF did not make the variability adjustment in the areas of crew and fuel costs because the resulting cost calculations would not have been significantly different. But the fact that BNSF has not attempted to make such an adjustment in the crew and fuel areas does not justify AEP Texas' failure to make the adjustment in the area of road property costs, where BNSF has shown that enormous distortions result from the use of the 50 percent variability factor.

The variability percentages for those two cost categories are already extremely high: crew wages are 84 percent variable and fuel is 96 percent variable at system-average densities. While the variability percentage would be even higher on high-density lines, any increase in total variable cost per ton would necessarily be relatively small. Thus, the calculation of a more accurate movement-specific variable cost based on a variability factor that is consistent with the logic of URCS is not likely to have a significant impact on the variable costs of the movement at issue, and in any event would produce *higher* variable costs in those areas. Therefore, if BNSF

BNSF Reply Exhibit III.B-1

Exhibit Redacted

BNSF Reply Exhibit III.B-2

Exhibit Redacted

Before the

Surface Transportation Board

Western Fuels Association, Inc. and Basin Electric Power Cooperative, Inc. v. The Burlington Northern Santa Fe Railway Company, Docket 42088

Reply Statement of
Joseph P. Kalt, Ph.D.

I. Introduction

A. Witness Background and Qualifications

Joseph P. Kalt is the Ford Foundation Professor of International Political Economy at the John F. Kennedy School of Government, Harvard University. The Kennedy School of Government is Harvard's graduate school of public policy and public administration. He also works as a senior economist with Lexecon, an economics consulting firm and a division of FTI Consulting. He holds B.A., M.A., and Ph.D. degrees in economics and is a specialist in the economics of competition and industrial organization, with particular emphasis on the regulated industries. Over his career, he has researched, published, taught, and testified extensively in these areas. Prof. Kalt has provided expert testimony on numerous occasions to the STB, both in litigated disputes and in rulemaking proceedings. He previously filed testimony in this proceeding, and his full curriculum vitae was provided in the opening evidence filed on April 19, 2005.

B. Purpose of Statement: The Economics of SAC Analysis Applied to WFA's/Basin's Complaint

I have been asked by the BNSF Railway Company ("BNSF") to examine the opening evidence of the complainants in this proceeding, Western Fuels Association, Inc. ("WFA"), and Basin Electric Power Cooperative, Inc. ("Basin"). In particular, I have been asked to examine the economics underlying three primary issues inherent in the complainants' Stand-Alone Cost ("SAC") analysis of BNSF's challenged rates for coal transportation to WFA's/Basin's Laramie River Station:

- the appropriate use of cross-over traffic in SAC analysis;
- revenue allocation for cross-over traffic in the contestable market setting of SAC analysis; and
- the proper method for adjusting rates on issue traffic, if the rates are found to exceed a reasonable maximum.

In undertaking my analysis, I have considered these issues in light of the ratemaking principles set out in the Board's *Coal Rate Guidelines* ("*Guidelines*").

C. The Economics Underlying the *Coal Rate Guidelines*

The appropriate starting point for analyzing the central economic policy issues that have been raised by the complainants in this proceeding is found in the economic underpinnings of the *Coal Rate Guidelines.* Constrained Market Pricing ("CMP") (and its implementation through Stand-Alone Cost analysis) and the *Guidelines* arose directly from the intersection of economic and policy necessities. CMP directly attacks problems of monopoly abuse by using the principles of a competitive marketplace (contestability) to establish maximum rates for market dominant service. At the same time, in recognition of the facts that (1) railroads are network industries with joint and common costs which are shared by a wide array of customers, and (2) railroads are subject to varying economic and competitive conditions across the geographies and customers served by their networks, the *Guidelines* allow differential pricing across services and customers. These two cornerstones of CMP – contestability and differential pricing – are necessary guides to pricing in a network industry like rail transportation.

Differential Pricing: Since the inception of the Staggers Act of 1980, which first explicitly allowed railroads to use differential pricing, such pricing has frequently been the focus of shippers, railroads, and regulators. The high fixed costs and capital-intensive nature of the rail industry make differential pricing a necessity that both the Staggers Act and the *Guidelines* recognize. In order for railroads to recover their fixed costs and sustain the levels of capital investment necessary to maintain their networks, they must have the ability to offer different customers different prices based on individual customers' alternative transportation options and their resultant willingness to pay for rail transportation. The alternative,. pricing at variable cost for all customers, would lead to under-recovery of costs and result in the long-run decay of the industry. In order to have economically viable railroads in the long run, implementation of CMP must allow for meaningful differential pricing. Shippers with inelastic demand should be paying relatively high rates for transportation consistent with the theory of efficient differential pricing – referred to as "Ramsey Pricing" in the *Guidelines*. Taking Ramsey pricing seriously implies that railroads should be able to charge higher prices to more inelastic customers in order to move toward revenue adequacy.

Contestability: This ability to price differentially, however, is not unconstrained under federal rail policy. As spelled out in the *Guidelines,* the principles of CMP are to be implemented through the technique of Stand-Alone Cost analysis of rate reasonableness.[1] SAC analysis represents the imposition of the economics of "contestability" – i.e., competition to be a service provider under conditions of free entry and free exit – applied in a setting in which economies of scale, scope and/or density make it generally more efficient to meet customers' needs through one (or a few) large firm(s), rather than a panoply of small (and, hence, higher-cost) firms. Under contestability, differential rates charged by a railroad would not exceed what a hypothetical entrant in a contestable market would charge; and overall revenue would be restricted by the threat of competition in the absence of barriers to entry and exit such that a railroad would not be able to realize excess profit (i.e., overall revenues in excess of the amount needed in the long run to cover costs plus a competitive rate of return on capital). The hypothetical entrant envisioned in the SAC analysis thus breaks even. That is, the SAC rates are those that would allow a complainant's hypothetical Stand Alone Railroad ("SARR") to stand alone and survive economically.

When implemented appropriately in the regulatory process, the SARR survives at the level of revenues it receives, and it does so because it is efficient.[2] That is, the competitive marketplace "selects" the SARR only when it is efficient to do so, and avoids

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[1] Coal Rate Guidelines, Nationwide, 1 ICC 2d 520C (August 8, 1985), at 528-529 (hereinafter "*Coal Rate Guidelines*"). The other CMP tests – management efficiency and revenue adequacy – have not generally been used.

[2] *Coal Rate Guidelines* at 528, 542.

SARR service when such service is inefficient (i.e., more costly than service by the incumbent). The SARR does not collect revenue on inefficient service because it loses the "contest" of the contestable market for such service to the more efficient incumbent.

In the absence of barriers to entry and exit, even an industry that is *structurally* monopolistic (i.e., one relatively large firm can produce what customers desire at lower cost than any number of smaller firms[3]) will be *behaviorally* competitive. As the *Guidelines* note: "The theory of contestable markets is more general than that of 'pure competition' because it does not require a large number of firms. In fact, even a monopoly can be contestable. The underlying premise is that a monopolist or oligopolist will behave [competitively] or [lose] all of its markets to a new entrant."[4]

The task of properly implemented SAC analysis is to work out the implications of the behavior of an incumbent and a complainant's SARR locked in a contest under the conditions that create contestability – i.e., conditions of unrestricted freedom of entry and exit. Because the real world railroad industry is not actually contestable, determining the results of contestability in rail markets is a hypothetical exercise. As the *Guidelines* put it, under CMP and its tool of implementation, SAC analysis, "rates will be judged against *simulated* competitive prices."[5] The "hypothetical" character of SAC analysis, however, does not mean "subjective" or otherwise not subject to rigorous specification. In fact, just such a need to be rigorously hypothetical by applying the tools of economics is encountered in such common contexts as when applying antitrust economics to the prospective effects of a merger prior to its consummation or to the prospective effects of predatory pricing prior to its success.

In short, the *Guidelines* appropriately recognize that Constrained Market Pricing implemented through SAC analysis means setting up a hypothetical scenario: the contest created by the appearance of a freely entering and, if need be, exiting SARR. In fact, it is

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[3] Economics says such industries are "naturally" monopolistic – "natural" in the sense that one large firm can produce more cheaply than any number of smaller firms; if smaller firms try to operate, the one large firm can always undercut them and drive them out of business without imposing losses on itself.

[4] *Coal Rate Guidelines* at 528.

[5] *Coal Rate Guidelines* at 542 (emphasis added). See also at 529.

precisely because railroading is subject to barriers to entry and exit that sound *regulation* can take the form of assuming away such barriers, introducing contestability as a hypothetical, and using the resulting prices needed for survival by an efficient SARR to limit rates in situations of market dominance and the associated possibility of excessive revenue recovery (as reflected in the 180% of variable cost standard for intervention). If railroading were not subject to barriers to entry and exit, actual competition would do the job – via contestability.

The challenge for consistent regulatory application of the economics of contestability to coal rail rates is to utilize sound economic principles and reasoning to work out the implications of competitive behavior in contestable railroad markets. As discussed below, doing so allows for the emergence of coherent and consistent answers to questions about both the appropriate place of cross-over traffic in SAC analysis and the appropriate mechanisms of rate reduction when challenged rates are found to exceed SAC rates. Since answers to both sets of questions flow from the economics of contestability, no separate method is required to determine the rate reduction on issue traffic. Let us now turn to such matters.

II. The Appropriate Treatment of Cross-Over Traffic in SAC Analysis

Over the period since the adoption of the *Guidelines*, one of the most important, not to mention contentious, issues for the Board has been implementing the *Guidelines* in a way that is consistent with the underlying economics when it comes to the treatment of cross-over traffic. In this case, the Laramie River Railroad ("LRR") stand alone railroad that has been hypothesized by the complainants is overwhelmingly dependent on revenue from cross-over traffic – traffic served end-to-end by the SARR accounts for less than 5% of the traffic on the LRR. The LRR consists of approximately 220 route miles of BNSF's network in the Powder River Basin ("PRB"). This portion of BNSF is densely traveled track that moves coal north and south out the PRB. The LRR traffic group serves Laramie River Station and over 75 other utility plant locations. In fact, the traffic at issue in this proceeding is the only end-to-end movement on the LRR, with the rest being cross-over traffic that is interchanged between the LRR and the residual BNSF.[6]

BNSF has argued that cross-over traffic should be excluded from the analysis because of the arbitrariness in allocating revenues between the SARR and incumbent.[7] This argument is compelling: With the design of the proposed SARRs largely at the discretion of the complainants, railroads have reason to be concerned that SARRs will be designed and revenue allocated on cross-over traffic in ways that violate statutory requirements by threatening the revenue adequacy of incumbent carriers and ultimately contradicting the guides to the public interest that emanate from the economics embodied in the original *Guidelines*. What do the economics of contestability tell us about the proper treatment of cross-over traffic?

A. Applying Contestability in the Railroad Context

It is perhaps a key difference between the legal and economics professions that the former appropriately tends to be rule-based (i.e., takes rules from statutes, precedents, and common law and applies them to solve particular disputes), while economics, on the other hand, tends to be behavior-based (i.e., given economic incentives of actors and certain conditions of their environment – say, no barriers to entry or exit – how will those actors behave?). The problem for the law (regulatory policy, in this case) is that *developing* the publicly interested rules and standards to be applied to a question such as the reasonableness of rail rates for coal transportation requires reference to the behaviorally derived standards of economics. This, in fact, was recognized in the process of developing the *Coal Rate Guidelines*.

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6 See WFA/Basin Opening Evidence III-H workpaper file "LRR Service Units.xls."

7 STB Docket No. 42057, Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence and Argument of The Burlington Northern and Santa Fe Railway Company (April 4, 2003) at III-A-4 to A-21. See also STB Docket No. 41191 (Sub-No. 1), AEP Texas North Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company (May 24, 2004) at III-A-10 to A-16 and STB Docket No. 42071, Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company (October 8, 2003) at III-A-9 to III-A-19.

The *Guidelines* confronted a vexing problem for a rules-based approach to maximum ratemaking: The ICC wanted to avoid having shippers pay for services and facilities that are not integral to providing them with the rail transportation service they need, but the economies of scale, scope, and density in efficient rail transportation inherently must be grounded on a network of considerable joint and common costs.[8] These joint and common costs are, by their very nature, *shared* by shippers. There is no non-arbitrary set of rules for allocating responsibility for these costs that does not make reference to shippers' valuation of (i.e., demand for) rail service on the network. As the *Guidelines* correctly put it: "Any means of allocating these costs among shippers other than actual market demand is arbitrary and may not permit a carrier to cover all of its costs. This is because non-demand-based cost apportionment methods do not necessarily reflect the carrier's ability (or inability) to impose the assigned allocations and cover its costs [owing to differential shipper valuations and differential competitive constraints on carriers]."[9]

Contestability theory can potentially provide demand-based (i.e., value-based) answers to problems such as the allocation of responsibility for joint and common costs because the economics of contestability are focused on a contest in which alternative railroads are competing to be the service provider to a group of customers by chasing the business of those customers. The railroad that can best satisfy customers' demands by offering service/rate combinations that are most attractive to customers and that generate enough total revenue to cover both variable and joint and common costs, such that the railroad is financially viable, "wins." Its rates then tell us the set of prices that are efficient, free of monopolistic abuse, free of cross-subsidy, and sufficient for revenue adequacy of the services subject to the competitive contest.[10]

These results follow from the competitive *behavior* captured by the economics of contestable markets. Competition compels conduct by sellers that is efficient and

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[8] *Coal Rate Guidelines* at 526.

[9] *Coal Rate Guidelines* at 526.

[10] See, e.g., Perry, Motty, "Sustainable Positive Profit Multiple-Price Strategies in Contestable Markets," *Journal of Economic Theory*, Vol. 32, No. 2 (1984), at 246-265.

eschews cross-subsidies because such behavior by sellers is needed to hold down costs and be able to offer lower prices than others. Under conditions of free entry and exit by both the incumbent and new entrants, an incumbent's prices (rates) would not be able to exceed the stand-alone costs of an efficient entrant. If they did, the entrant would enter and the incumbent would suffer the consequences.[11] By the same token, competition compels negotiation of services and rates that pass through to consumers what otherwise might end up as monopoly returns to sellers because such negotiation is needed to have a chance of beating out freely entering and exiting competitors who are on the lookout for profit opportunities.

In short, publicly desirable attributes such as efficiency, revenue adequacy for the efficient, absence of cross-subsidy, and the like fall out of the economics of competitive behavior. Under properly implemented contestability via SAC analysis, the Constrained Market Pricing of the *Guidelines* does not attempt to impose such attributes in the form of disembodied rules or formulas. Rather, by using SAC analysis to figure out how competitive behavior by a SARR and an incumbent in a contestable setting would, for example, establish the prices for a SARR's cross-over service and, as discussed below, the proper CMP revenue for that issue traffic, such desirable attributes are behavioral results, not rules. That is, the result of consistent application of the economics of contestability will be satisfaction of the *Guidelines'* stated objectives of efficiency, revenue adequacy for the efficient, absence of cross-subsidy, allocation of joint and common costs in accord with differential valuations, and shippers free from bearing the costs of services and facilities that are not integral to the service they want and use.

A properly framed SAC analysis compels the regulatory process to confront the increasingly salient question arising in rate proceedings: What kinds of SARRs would rational new entrants design in order to compete in the face of putatively excessive rates for challenged traffic? Are SARRs that are overwhelmingly dependent on cross-over

[11] As a general matter, the contest's "winner" can be expected to have to offer prices that are no higher than the prices at which the next most efficient competitor could earn a normal profit (i.e., its cost of capital) and, thus, willingly survive and supply customers. If the "winner" is, in fact, more efficient than the next closest rival, the winner can realize profits in excess of its cost of capital. Technically, such extra profits are not "excess" in the sense of being monopolistic returns; they are returns (rents) to superior efficiency.

traffic credible entrants in a contestable market? Answers to these questions are to be found in the realization that, in a contestable market setting, SARRs would design – *and price* – efficient systems that would stand a chance of "winning" the competitions of a contestable market. This is the framework within which to analyze cross-over traffic. Instead, SAC cases have become dominated by rules that are not derived from behavior consistent with contestable markets. As a result, recent cases have seen SARRs that are implausible vehicles for entry into a rail market and that appear to be designed only to take advantage of the arbitrary revenue allocation rules.[12]

B. Contestability and the Inclusion of Cross-Over Traffic

If railroading were actually contestable, an actual SARR would be unconstrained by barriers to entry in designing its system and competing for whatever traffic it wished – including cross-over traffic. But it would do so in an economic context in which it could not rationally expect to win traffic for which it is not the efficient alternative or which is not priced lower than the next best alternative (as offered in the contest by the incumbent). In terms of cross-over traffic, this means that a SARR could expect to realize cross-over revenues only to the extent that it offers service to shippers that is more efficient than the service of the incumbent and that is priced so as to beat the best offer the incumbent can make in the contest for the portions of the moves at issue. On the other hand, if hypothetical SARRs designed for litigation purposes are not subjected by the regulatory process to these constraints of efficiency and competitive pricing, but can capture cross-over revenue in excess of the revenues that would be yielded by a contestable marketplace, complainants can be expected to game the system by designing SARRs so as to maximize cross-over revenues and, thereby, minimize the revenues that

[12] STB Docket No. 42069, Duke Energy Corporation v. Norfolk Southern Railway Company, Decision (November 5, 2003) at 25-30 (hereinafter "*Duke/NS Decision*"). STB Docket No. 42072, Carolina Power & Light Company v. Norfolk Southern Railway Company, Decision (December 22, 2003) at 22 (hereinafter "*CP&L/NS Decision*"). STB Docket No. 42056, Texas Municipal Power Agency v. The Burlington Northern and Santa Fe Railway Company, Decision (March 21, 2003) at 22-24. STB Docket No. 42054, PPL Montana v. The Burlington Northern and Santa Fe Railway Company, Decision (August 19, 2002) at 7-8. STB Docket No. 42071, Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Reply Evidence of The Burlington Northern and Santa Fe Railway Company (October 8, 2003) at I.12 to I.17, III.A.59 to III.A.68.

the issue traffic must generate to leave the SARR economically sustainable as a stand alone railroad.

Thus, inclusion of cross-over traffic is not theoretically "wrong" or inconsistent with contestability, but the proper regulatory treatment of cross-over revenues under SAC analysis must entail working through the economics of contestability to answer how behavior in contestable settings would set rates on cross-over traffic. The resulting rates *are* the revenues that a SARR could garner on cross-over traffic. That is, sound application of the CMP principles of contestability embodied in the *Guidelines* derives the *prices* a SARR could charge and still win the competition for its portions of cross-over moves, rather than allocating revenues through arbitrary rules that delineate divisions of through rate revenues between incumbent and SARR, vainly justified by arguments about cost attribution.[13]

The Board has recognized that a complainant can selectively choose highly rated (i.e., high revenue and low cost) traffic on the SARR and rules-based revenue divisions to "game" the process[14] by designing a SARR to capitalize on divisions that reward small SARRs with very large amounts of highly rated cross-over traffic from which they garner hypothetical revenue divisions. With no effective means of determining whether a SARR's proposed portions of cross-over moves are more efficient than the incumbent and could actually win the contest for such portions of moves, prior SAC analyses have allowed for arbitrarily designed SARRs that have upwards of 80% to 90% of revenues attributable to cross-over traffic.[15] In such situations, the design of the SARR is not being driven by the economics of an efficient competitor seeking to win by offering rates that beat the next best alternative, but by the incentive to include many short-haul movements that are highly profitable due to the arbitrary rules that have evolved to allocate revenue between the SARR and the residual incumbent.

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[13] *Duke/NS Decision* at 18-20.

[14] *CP&L/NS Decision* at 31-32.

[15] *Duke/NS Decision* at 17; STB Docket No. 42057, Public Service Company of Colorado D/B/A Xcel Energy v. The Burlington Northern and Santa Fe Railway Company, Decision (June 7, 2004) at 13 (hereinafter "*Xcel/BNSF Decision*"). STB Docket No. 42070, Duke Energy Corporation v. CSX Transportation Company Inc., Decision (February 3, 2004) at 20 (hereinafter "*Duke/CSX Decision*").

As Exhibit III-A-2 demonstrates, in the present case, the LRR represents a particularly simple SARR – but one which implicitly is held out by the complainants to be especially efficient in attracting very large volumes of cross-over traffic off of BNSF for portions of many, many moves. Each blue dot in the Exhibit is either an electric utility that receives coal from BNSF or the point on the BNSF network where BNSF interchanges the traffic with another real world railroad. The blue line segment is the LRR, and the yellow line segments are the BNSF network that the LRR depends on to move its traffic toward its destination. While the LRR consists of only approximately 220 route miles, the residual BNSF that the LRR depends on is longer than 9,300 route miles, nearly 40% of the entire approximately 24,000 route mile BNSF system.

An illustration of the incentives and prospects for gaming of cross-over revenues is provided by the case at hand. In their opening evidence, the complainants have demonstrated that under their proposed revenue allocation to cross-over traffic, they are "gaming" – whether intentionally or not – with regard to traffic selection and revenue allocation. Even if the rate for movements of the challenged issue traffic were near zero, the complainants' discounted cash flow model of SAC revenues and costs still implies that a significant reduction in the rates on the issue traffic is needed to bring LRR revenues in line with cost. This is not economically plausible. If the challenged issue traffic is making a minimal (or zero) contribution to revenue and overall SARR revenues still exceed costs, the implication is that a finding that, at challenged rates on the issue traffic, aggregate SARR revenues would exceed aggregate SARR costs. The called-for rate reduction is actually being driven by rules which over-allocate revenues to the SARR's cross-over moves (all non-issue traffic in the case of the LRR).

This is demonstrated in BNSF Reply Exhibit III.A-3. Exhibit III.A-3 is an extension of WFA/Basin Opening Exhibit III-H-2, presented by the complainants to purportedly show that "the maximum SAC rates under the percentage reduction method [of rate reduction on issue traffic] are driven principally by the starting rates [i.e., the rates being challenged as excessive]."[16] Exhibit III.A-3 examines the implications of starting

[16] WFA/Basin Opening Evidence at III-H-12.

rates that extended well below the \$3.38 rate which the complainants have asserted is the proper rate on the issue traffic (down from the \$6.04 per ton rate, which the complainants wrongly assert is the challenged rate). At a rate between \$3 and \$4, the required reduction in rates under the complainants' SAC analysis and the percentage reduction approach is between 34% and 36% (according to the complainants' figures). Thus, if BNSF had filed a starting tariff with a rate of \$3.38 per ton, this rate, too, could be challenged by the complainants under their model. Even with a starting rate on the issue traffic of *\$0.00* per ton on the Laramie River Station movement, applying the revenue allocations and percent reduction method proposed by the complainants yields an implied reduction in the challenged rate of over 27%.

These results are not being driven by what the complainants term the "power of the pencil" – the ability of the railroad to set the rate (and starting point) for the issue traffic. The particular cross-over traffic selected by the complainants, coupled with allocations of revenue from cross-over traffic to the LRR and the proposed method of rate reduction, yields the nonsensical conclusion that the issue traffic should be free to the complainants (or, perhaps, negative, with BNSF paying WFA to let BNSF haul coal to Laramie River Station). This arises because the non-issue traffic – all of it cross-over – pays for essentially the entirety of the small SARR that has been proposed given the extant rules for allocating revenues to a SARR's cross-over traffic.

The sensitivity of the SAC test to the design of the SARR is illustrated in BNSF Reply Exhibit III.A-4. The exhibit asks what the effect of LRR network expansion would be on the revenues and costs of the LRR under the complainants' SAC analysis, cross-over revenue allocation, and proposed rate reduction methodology. If modest expansion of the LRR network leads to large changes in the relationship between SAC revenues and SAC costs, this suggests the opportunity for gaming and that the revenue allocation procedures of the complainants are leading to a distortion of the SAC results. In the case of the LRR, the distortion from the inclusion of cross-over traffic with revenue allocation that is not consistent with the economics of contestability can be quite large.

Exhibit III.A-4 shows the effect of serially building out segments of the coal-carrying network adjacent to the LRR. The analysis incrementally adds lines out of the southern, eastern, and western ends of the LRR. Specifically, Scenario #1 extends the Guernsey line south through Northport to Sterling, an addition of 177 route miles. The excess of 2005 revenues over costs (under 100-mile modified straight mileage prorate – "MSP") declines from 42% under the original scenario to 27% under Scenario #1. Scenario #2 adds a segment to the network in Scenario #1, from Donkey Creek at the eastern end of the LRR through Alliance to Lincoln, adding another 587 route miles of heavily utilized track that is used to move coal. This expansion reduces the excess revenues to 3%. Finally, Scenario #3 adds 238 miles of track at the western part of the LRR from Campbell to Huntley (in addition to the track added in Scenario #1 and #2), and the excess revenues fall to 1%. Obviously, it has been in the complainants' interest to (carefully) design an especially small and cross-over-laden SARR.[17]

As discussed below, consistent application of the principles of contestability embraced by the *Guidelines* can avoid the nonsensical conclusions and opportunities for gaming that are embedded in the complainants' SAC analysis. In so doing, the public's interests can be protected by subjecting BNSF and other railroads to the discipline of competition that emanates from application of contestability to rail rates.

III. Cross-Over Revenue Allocation Under Contestability

A. The Economics of Contestability Applied to Cross-Over Traffic

The complainants' revenue for cross-over traffic is based on MSP with a 100-mile block. They argue that two factors support this approach: (1) the Board has used this approach in previous cases, and (2) the results purportedly conform to interline divisions seen in real world railroading. Neither of these assertions justifies the MSP approach of the complainants.

[17] BNSF electronic workpaper "LRR adjacent segments.xls" shows the same build-out segment analysis using the MSP with a 25-mile origin/termination block rather than a 100-mile block. Although a distortion still exists, it is much less significant than the distortion resulting from use of the 100-mile block.

Regarding the complainants' appeal to past approaches in prior proceedings, we have seen that the application of MSP with a 100-mile block to the LRR yields nonsensical results and opportunities for gaming by the complainants. Moreover, as discussed below, should the Board determine that it will apply an MSP methodology to allocation of cross-over revenues because it sees a cost-based justification for such an approach, the evidence clearly supports a 25-mile origin/termination block as more appropriate.[18] Such a step, however, is unwarranted on grounds of either consistency with the *Guidelines* or procedural simplicity. My analysis demonstrates in this section that the economics of contestability yield readily applicable approaches to coherently determining cross-over revenues. Moreover, as I explain in Section IV, when cross-over revenues are properly identified using principles of contestability, there is no need to make arbitrary assumptions about the extent to which revenues on cross-over movements must be reduced to eliminate any "overcharge" by the incumbent. The economics of contestability resolve the question of both the appropriate revenue on cross-over traffic and the proper level of the rate for the issue traffic.

Regarding the complainants' second defense of their MSP methodology for allocating cross-over revenues, the Board has correctly found that real world divisions do not provide useable guides to determining rates and revenues for cross-over service by a SARR.[19] Under the *Guidelines*, the Board seeks the answers of a contestable marketplace to the questions of cross-over pricing and revenues. Real world divisions generally are not the product of a contestable marketplace: railroads' notable fixed and sunk costs make the real world preeminently distinguishable from the hypothetical contestable world of free entry and exit for a SARR and an incumbent. Indeed, it is the absence of the conditions needed for contestability that motivate rate regulation via the CMP approach of the *Guidelines*. If railroads were actually contestable in the real world, there would be no need for SAC cases; contestable entry would regulate rates. Instead, real world divisions are the result of negotiations between railroads with substantial sunk costs,

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[18] See BNSF Reply Narrative at III.A.(3).(c).(v).

[19] In previous cases, the Board has said that the revenue allocation for cross-over traffic should reflect the relative cost of providing the service. See *Duke/CSX Decision* at 22 and *Duke/NS Decision* at 20.

often in bilateral or very small numbers contexts, and in bargaining settings that come nowhere near reproducing the workings of a contestable setting. WFA/Basin's purported real world evidence is not relevant here for determining revenues on cross-over traffic consistent with the *Guidelines.*

As stressed above, the appropriate starting point for determining revenue on cross-over traffic is found in the economics of the competition that would take place between a residual incumbent and a SARR under simulated conditions in which neither is subject to barriers to entry or exit (i.e., conditions of contestability). Such competition yields the straightforward result that prices that the "winner" can charge in a contest in a contestable market will not exceed the avoidable costs of the next best alternative (i.e., the loser). In the SAC context, the next best alternative to the SARR's carriage of its portion of a cross-over move on its system is the carriage of that same portion of the cross-over move by the incumbent on its system.

Contestability in this setting proceeds as if both the SARR and the incumbent shout out offers to shippers for the portion of the cross-over traffic that is brought into the contest by the SARR's selection of its system design and the SARR's selection of the traffic it wants to chase (i.e., its marketing strategy). We can readily ask, as the SARR and the incumbent confront shippers in the contestable marketplace and shout out their offers for the contested portion of the cross-over move, how low will their competition take their prices? Neither party will go lower with its offered rate than the costs it can avoid if it is the loser in the competition: If it offered rates lower than its avoidable costs, it is at risk of winning business on which it will incur a loss. Thus, for example, if one of the railroad's avoidable costs on the contested portion of the cross-over traffic is \$32 and it were to win the competition with an offered rate of \$30, it would suffer a \$2 loss. That railroad is better off dropping out of the competition when rates are pushed even the slightest amount below \$32. This means that the lower (avoidable)-cost contestant can win the competition by lowering its rates to an amount essentially equal to the higher (avoidable) cost competitor less one cent. Thus, if the lower-cost competitor has avoidable costs of, say, $28, it can win the hypothetical competition by offering a rate one cent below $32 (i.e., the avoidable costs of the less efficient competitor).

This outcome of a contestable market for contested portions of cross-over traffic is, of course, the familiar result of competition and the reason the public has an abiding interest in competition: In well-functioning competitive markets, the efficient contestants win and drive out the inefficient contestants, and prices are driven down to no more than the costs at which the next best alternative could survive. In the context of competition over contested portions of cross-over moves, the direct implication of the economics of contestability embodied in the *Guidelines* is that the revenue properly allocated to a SARR under coherent SAC analysis on cross-over traffic is the avoidable costs of the incumbent that are associated with that traffic. If the SARR is actually more efficient at carrying the contested portion of cross-over moves than the incumbent, the SARR will thereby appropriately be treated as the "winner" in SAC analysis, and it will capture contributions to the joint and common costs of its own network. Such contributions are precisely those that competition under contestability yields. In terms of the hypothetical above, the SARR is most efficient (with costs of $28), and the disciplining forces of competition yield it a rate of $32 (less one cent) upon winning the contest for the contested portion of the cross-over move. Upon losing the competition when rates get even the slightest below the incumbent's assumed avoidable costs of $32, the incumbent is compelled to exit the service which was contested. The incumbent exits without constraint under conditions of contestability – i.e., the incumbent is assumed to have no sunk costs on the contested service that would otherwise induce it to stay in the competition at rates below $32.

The foregoing outcomes of competition for cross-over traffic obviously yield *prices* which are, at the same time, the proper *revenue allocations* under the contestability embodied in the *Guidelines.* That is, working out the economics of contestability answers the cross-over revenue allocation question.[20] The resulting prices (rates) and

[20] At the same time, answering the question of proper cross-over traffic revenues for the LRR answers the question of the proper revenue for the issue traffic without the need for additional rules regarding the reduction of rates (see discussion below in Section IV).

revenue allocations are the product of the relative efficiency of the SARR and its choice of target traffic. Thus, if the SARR chooses to design and market itself (as the LRR has done in the present case) so as to compete in the contestable market of SAC analysis for only a portion of a route and only a portion of the traffic on that route,[21] it thereby chooses to compete against the avoidable costs of the incumbent on the corresponding portion of the route for the corresponding portion of the traffic on that route. This is the unavoidable contest that is created.[22]

If, on the other hand, the complainant chooses to design a SARR to capture through moves of non-issue traffic, SAC analysis permits the complainant to include the incumbent's full through revenue of the movements in the SAC calculations. When a through movement is included in the SARR, the rates for the movement are known – they are the rates charged by the incumbent. Since the purpose of the SAC analysis is to determine whether the *rates charged* by the incumbent on the traffic included in the SARR are generating a cross-subsidy, and the rates for through movements are known, no further inquiry needs to be made into the revenues available to the SARR for a through move. In the case of cross-over traffic, however, there is no pre-existing actual rate for the part of the through movement that the SARR proposes to carry. Thus, the revenue that would be available to the SARR for that cross-over movement has to be determined by reference to economic principles. The revenues thereby attributed to the SARR are not

[21] In the case of the LRR, the only through movement carried by the SARR is the issue traffic to Laramie River Station. All other traffic is cross-over, and the LRR does not provide service to several non-utility customers, which originated over { } tons on BNSF in 2004. See WFA/Basin Opening Evidence III-H workpaper file "LRR Service Units.xls" and WFA/Basin Opening Evidence III-A-2 workpaper files "Methodology To Exclude BNSF Customers From LRR Traffic Group.xls" and "04COALOD_WITH_NULL_REVISED_ROUTES.xls."

[22] In fact, the economics that generate the conclusion that a contestable market for cross-over moves would yield prices (rates) and corresponding revenue allocations to a SARR that are no higher than the incumbent's avoidable costs are analytically parallel to those that govern the pricing in so-called "rat tail" settings, which the Board has encountered frequently in the context of merger analyses. In those analyses, the Board has properly recognized, and the federal courts have endorsed the economic reasoning, that a railroad serving a portion of a through move will win the competition against a railroad proposing to carry the entirety of a through move when the former railroad's costs are less than the latter's avoidable costs on the contested portion of the move; and that, upon winning, the former railroad will realize a division which is not greater than those avoided costs. See *Western Resources, Inc., v. Surface Transportation Board and the United States of America*, 109 F.3d 782 (D.C. Cir. 1997) at 786-788.

a proxy for a through rate: they are rates that would be expected in a contestable market. Therefore, they are not eligible for a rate deduction; they are already at the level set in the contestable market. (As discussed below, this is why the principle of contestability allows the Board to resolve both the cross-over revenue and rate reduction questions using contestability theory.)

Note the proper, anti-"gaming" incentives that flow from this application of the economics of contestability. Assuming a SARR that is rational and attempting to be the efficient winner of the competitions it enters, the reasonable conclusion to be drawn when the SARR chooses to compete only for cross-over non-issue traffic (as the LRR has here) is that the SARR has concluded that a build-out to capture the through revenues on non-issue traffic would not be the most efficient way of entering the market. On the other hand, this outcome respecting SARR revenues implies that a complainant would have corresponding incentives to "build" (propose) more extensive SARRs if and when it is efficient to do so (i.e., when such a SARR would be in the public interest).

Observe that these outcomes are also consistent with the Board's desire for "simplification" of SAC computations that does not penalize the shipper. In fact, these outcomes offer only a win/win situation for the proponent of a SARR. Assuming that the SARR would be more efficient than the incumbent and, therefore, that the SARR's incremental costs would be lower than the incumbent's avoidable costs, the SARR has two ways to benefit from economies of scale, scope, and density. Without expanding the SARR configuration beyond the lines necessary to serve the issue traffic, a SARR proponent can nonetheless generate net revenues that offset the costs of building and operating the issue traffic line segments by adding cross-over traffic and earning such revenues in excess of its incremental costs. On the other hand, if the shipper believes that even larger amounts of net revenues can be generated by expanding the SARR configuration to handle some or all of the cross-over traffic movements from their BNSF origin to their BNSF destination, and obtaining the incumbent's full revenues for those movements for which the SARR replicates the entirety of the incumbent's current service, the shipper is free to take this action instead. In neither case is the shipper's SAC result saddled with potential losses that might be generated if it were forced to expand the SARR by building line segments that generate incremental revenues below the forward-looking costs of constructing and operating these lines.

It is consistent with sound and feasible regulatory policy that a SARR that builds a larger system in order to carry non-issue traffic on its through moves (when such traffic would otherwise be cross-over on a less extensive SARR) garners the incumbent's *rates* on such through traffic. This approach is consistent with rebuttable presumptions that the SARR which is designed to compete effectively for through movements of non-issue traffic has costs on through moves of that traffic which are less than extant rates (otherwise the SARR would not have any incentive to be designed to contest for such traffic). For a SARR (like the LRR) that chooses *not* to compete for through movements of non-issue traffic, but only for cross-over portions of through moves, it is appropriate that that SARR garner no more than the full avoidable costs (taking none to be sunk) of the incumbent since that allocation is the allocation a competitive contestable market would make in a contest for cross-over traffic, and there are no extant rates to turn to when a SARR enters and proposes to take only cross-over portions of through moves currently being carried by the incumbent.

In the case of both the SARR that elects to contest only a portion of a move (i.e., seeks cross-over traffic) and the SARR that builds out its system further and elects to contest all of the traffic on a complete route, the SARR is a replacement for the incumbent on the movements included in the SAC analysis. As the Board properly recognized in *Nevada Power*,[23] the incumbent should be accorded no competitive advantage due merely to its incumbency (i.e., having already sunk much of its costs in building its network and serving a particular route and/or traffic). The economics of contestability accord no such advantage to the incumbent since, like the SARR, the incumbent has no barriers to exit or entry due to irretrievably sunk costs, and the incumbent is as footloose as the SARR. If the incumbent loses all of the traffic on a

[23] Interstate Commerce Committee, No. 37038, *Bituminous Coal – Hiawatha, Utah to Moapa, Nevada,* Decision (October 12, 1994) 10 I.C.C. 2d 259, 265-267 (hereinafter "*Nevada Power Decision*").

portion of a cross-over move in the contest with the SARR, the incumbent is treated as exiting and harboring no protections from sunk costs *on the contested traffic.* Accordingly, the incumbent avoids all of the fixed and variable costs of the contested traffic; that is, the incumbent hypothetically eschews the building of tracks duplicative with those of the SARR and the SARR replaces the incumbent. If the incumbent loses part of the traffic on a portion of a cross-over move, it still must build its line to serve the traffic for which the SARR does not offer service,[24] but the incumbent continues to be treated as exiting the service of the contested traffic and harboring no protections from sunk costs *on the contested traffic.* In that case, the SARR replaces the incumbent entirely (in the sense of a full accounting of avoidable costs) for the traffic that the SARR does win.

This approach fully addresses concerns the Board/Commission has about entry barriers.[25] Under the economics of contestability set out above, the competition that is simulated does not involve the real world incumbent, with all of its sunk costs, barriers to exit, and the like. Rather, the revenue determination on cross-over traffic under contestable conditions is derived assuming that the incumbent is, like the SARR, free to enter and exit and has no more of a foothold than the SARR. As part of the contest, no rates are being reduced to preclude entry by the SARR. In the case of cross-over traffic, there are no rates to reduce since none exist. The purpose of the contestability analysis is to determine what the rates for the cross-over movement would be in a true contestable market.

The allocation to the SARR of revenue for cross-over traffic on the basis of the incumbent's avoidable costs arises not because the incumbent is protected by barriers to entry or exit or has some other first-mover advantage. Rather, the allocation on the basis

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[24] It is appropriate to require that the incumbent be assumed to have to build its portion of the cross-over route under the circumstances (as with the LRR) in which a SARR markets its service to only a portion of the potential cross-over traffic. To do otherwise is to imply that the potential cross-over traffic that the SARR elects not to serve would be left without service altogether. Allowing a SARR to implicitly deny and destroy service to a certain class of customer is not consistent with the use of CMP and SAC analysis as protectors of the public interest, since the public has an interest in maintaining service to customers that the SARR eschews. This issue is prominent in the case at hand. See note 21 above.

[25] *Nevada Power Decision,* 10 I.C.C. 2d at 265-266.

of the incumbent's avoided costs arises because the free-to-enter-and-exit "incumbent" enters the simulated contestable market with its own system (without the facilities needed to handle the traffic that is the subject of the contest) and that system's particular configuration, joint and common costs, and efficiency attributes. Under the contestability approach set out here, cross-over revenues for the SARR are kept consistent with the economics of contestability that generate the winning rates in the particular contests that the SARR "wins" given both the system design of the incumbent and the system design of the SARR. Accordingly, in the simulated competition invoked by the *Guidelines*, the SARR completely replaces the incumbent in those services and on those routes where the SARR "wins," and the contestability standard establishes revenues for the SARR on cross-over moves under the assumption that none of the incumbent's costs of serving the cross-over traffic are sunk. That is, SARR revenue is established at the level of *all* of the incumbent's *avoidable* costs of serving the cross-over traffic.

In short, revenues that are retained by the incumbent for off-SARR portions of the cross-over movements under consistent application of the *Guidelines* are not reflective of an incumbency advantage. Rather, the contest set up by the SARR's choice of system design and marketing strategy leaves the incumbent as the efficient – and necessary – provider of rail service that interlines with the SARR as the residual incumbent's portion of cross-over moves. As a direct consequence, setting SARR cross-over revenues at the level of the costs avoided by the incumbent which the SARR replaces carries proper incentives for complainants when designing their SARRs. It is the nature of the Board's approach to SAC analysis that a complainant is allowed to assert that its SARR can and would win the contests for the traffic it elects to serve.

Concomitantly, with respect to cross-over traffic, the SARR should be allowed to collect no more than the competitive prices that a contestable market would set for the SARR's portion of cross-over moves. Permitting the SARR to capture more than the avoided costs of the incumbent on the SARR's portion of cross-over traffic amounts to allowing the SARR to capture above-competitive rates for the traffic it elects to serve. The consequence is then what economics refers to "cross-subsidy" of the challenged *issue* traffic: above-competitive pricing of cross-over traffic cross-subsidizes issue traffic by reducing the amount of revenue a SARR needs to collect from the issue traffic. In fact, it is such cross-subsidy inherent in the present complainants' MSP revenue allocation methodology that produces the results of BNSF Reply Exhibit III.A-3, in which the complainants' SAC analysis implies the need for a reduction in the rate for BNSF service to Laramie River Station even if that rate were to start out at $0.00. The complainants' SAC analysis and requested rate reduction are rife with cross-subsidy.

Appropriately applied SAC analysis under the contestability conditions envisioned by the *Guidelines* can allow a SARR to pursue any traffic it desires with any system it desires. Allowing such freedom, however, must be accompanied by an ability to realize revenues on non-issue cross-over traffic that do not exceed the SARR's competitor's (i.e., the residual incumbent's) avoided costs of serving such traffic. Consistent application of these economics of contestability obviously would provide complainants with incentives to design efficient SARRs where such systems have realistic possibilities of winning competitions and where resulting revenues allow the SARR to cover its costs and contribute to its joint and common costs precisely to the extent that it could hypothetically offer the shipping public more efficient service. The complainants would also have incentives to "build" larger and more efficient SARRs to the extent that such systems were truly more efficient and the SARR could convert cross-over traffic to complete routings on its own system. In fact, complainants would have incentives to build and market efficient systems, whatever the size, since efficiency improvements would be the source of net revenue contribution from non-issue traffic. In so doing, they would more closely adhere to the goals and the standards of the *Guidelines*.

B. Application of the *Guidelines'* Contestability Standards to the LRR

At least in the case of the LRR, with its relatively simple route structure and operations, the contestability standard for determining SARR cross-over revenues (i.e., BNSF's avoidable costs on cross-over traffic "won" by the SARR) is amenable to relatively straightforward numerical calculation. While I have not studied the details of the Uniform Rail Costing System ("URCS"), based upon my understanding of URCS, I have concluded that a URCS-based standard for measuring avoided costs can provide a reasonable starting point for determining proper cross-over revenues "earned" by the LRR.[26] A URCS-based measure of avoidable costs avoids problems of sunk costs that might otherwise be a source of advantage to an incumbent. By including a component of fixed costs that vary with traffic, the implementation of a URCS-based measure of avoided costs would preclude the incumbent from exploiting any advantages created by its sunk costs.

Utilizing URCS-based measures of avoidable costs, Mr. Fisher and Mr. Klick calculated that the revenues which the LRR would receive under the *Guidelines'* contestability standard for cross-over rates and revenue allocation would be considerably smaller than the revenues that the LRR receives under the arbitrary cost allocations presented by WFA/Basin. As discussed more fully below, I find further that, given the LRR's costs and the rates and revenue allocations the LRR would receive under the contestability standard, receipt by the LRR of BNSF's challenged rates on the Laramie River Station moves would not allow the LRR to fully cover its stand-alone costs.

BNSF is aware that the ICC previously felt it was rejecting the application of contestable market principles in establishing revenues on cross-over traffic in its *Nevada Power* decision, but BNSF believes the Board should reconsider that decision for at least four important reasons. First, as the Board recognized in the *Duke/NS* and *CP&L/NS*[27] decisions and as discussed above, significant potential for shipper "gaming" of the stand-alone cost test has emerged as a result of shippers' extensive reliance on cross-over traffic. It is reasonable to infer that at the time it rendered *Nevada Power*, the ICC did not anticipate that shippers would make such extensive use of cross-over traffic.[28] As we can

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[26] The URCS-based standard provides substantial revenue recovery for road property and maintenance of way on high density lines such as the part of the BNSF network included in the LRR.

[27] *Duke/NS Decision* at 22; *CP&L/NS Decision* at 21-22; and *Nevada Power Decision,* 10 I.C.C. 2d at 265-266.

[28] In the *Nevada Power* case, the parties had the opportunity to supplement the record. Nevada Power proposed expanding the scope of its SARR to build out more of the UP's system, UP objected, and the Commission ultimately considered the original SARR the complainant proposed. Given the unique circumstance surrounding the structure of the SARR in *Nevada Power*, it is understandable that the Commission expressed skepticism toward UP's arguments concerning cross-over traffic..

see in the case of the LRR, the overwhelming reliance on cross-over traffic and prior approaches to revenue allocation for cross-over traffic has led to significant "gaming" of the stand-alone cost test.

Second, because Union Pacific prevailed in the *Nevada Power* proceeding, it had no opportunity to appeal the ICC's decision that (1) permitted cross-over traffic, (2) employed a modified mileage prorate in estimating divisions on cross-over traffic, and (3) rejected Union Pacific's testimony on application of contestability principles as the basis for establishing revenue divisions on cross-over traffic. This absence of framework and opportunity to more fully consider the economics embodied in the *Guidelines*, coupled with the evolution of cases and case strategies, has made cross-over matters particularly controversial and contentious. It is appropriate at this time to examine and apply the underlying economics that the *Guidelines* are based upon.

Third, in terms of implementing a URCS-based measure of avoidable cost, the ICC had an incorrect view in *Nevada Power* that such a measure would "allow for only a minimal contribution to NPRR's joint and common costs."[29] It is my understanding that URCS assumes that 50% of road property costs vary with traffic volume.[30] Thus, on a high density line, the portion of avoidable costs that relates to investments in right-of-way and track can be quite large.

Fourth, in a related vein, the ICC explicitly stated when it adopted the *Guidelines* in 1985 that it might be necessary to revisit issues associated with the application of CMP principles as it gained additional experience:

> We [ ] consider the guidelines to be a workable approach to the case-by-case resolution of rate complaints in market dominant situations. We realize, however, that the workability of the guidelines is most appropriately evaluated in light of experience. The test of experience is appropriate because CMP is based on rather sophisticated economic theories which require careful interpretation and application. We may well find, after some experience with applying the guidelines, that

[29] *Nevada Power Decision,* 10 I.C.C. 2d at 266.

[30] See BNSF Reply electronic workpaper "Bnsf809phseiid1.y04" at "worktable D1".

> modifications are needed to make this approach to maximum rate regulation for coal traffic fully workable.[31]

As shippers have come to rely so extensively on cross-over traffic – and to argue, blatantly, that they are entitled to the benefits of economies of scope, scale, and density of the SARR network without having to pay the full costs of the incumbent's feeder lines necessary to move traffic to and from the SARR (thereby generating the economies of scope, density, and scale)[32] – two jugular issues of SAC application have emerged: (1) how to establish the appropriate revenue for cross-over traffic movements, and (2) how to calculate a reduction in issue traffic rates if the Board should find SARR revenues are in excess of SAC. The contestable market principles I have outlined address <u>both</u> of these issues at once, using the single unified economic theory that is the foundation for CMP. The Board is accordingly in the position of being able to more adequately address both of these areas by employing the economics of contestability called for by the *Guidelines*.

As noted above, application of the economics of contestable markets to the issue of cross-over traffic results in each cross-over movement (or group of movements) earning revenues equal to the incumbent's avoided costs (i.e., long-run incremental costs). To the extent the SARR is more efficient than the incumbent in handling the SARR's cross-over portion of the through movement, it gets to keep the full benefit of that superior efficiency, *even if that revenue is well in excess of the SARR's own long-run incremental costs.*[33] Such excess of SARR revenues over SARR long-run incremental costs means each cross-over traffic movement (or group of movements) generates contribution that can be used to reduce the forward-looking costs of constructing and operating the network that is required in order for the SARR to handle the issue traffic. This means that any resulting excess of SARR revenues over SAC constitutes a direct reduction in the revenues generated by the issue traffic (with the jurisdictional threshold

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[31] *Coal Rate Guidelines* at 525.

[32] See e.g. STB Docket No. 42071, Otter Tail Power Company v. The Burlington Northern and Santa Fe Railway Company, Complainants Rebuttal Evidence, Narrative (April 29, 2004) at III-A-12.

[33] If it were the case that the SARR was not more efficient than BNSF in handling the SARR portion of a cross-over movement, then contestability principles would argue that the SARR could not effectively compete for that movement.

serving as the minimum rate that can be prescribed for the issue traffic). No further "allocation" or "revenue reduction" approach is required.

In short, application of contestability principles to establish revenue on cross-over traffic movements, as I describe above, is consistent with the theory underlying the ICC's development of CMP as protection of the public interest; serves to assign to cross-over traffic the maximum amount of revenue the SARR could achieve on this traffic if it operated in a real, competitive, contestable market; and serves to address two of the most vexing issues facing the Board, today, regarding the application of the stand-alone cost test. In the face of these results, continued use of economically arbitrary rules for cross-over revenue allocation, with their attendant impact on rates through rate reduction rules that are not derived from the economic principles embedded in the *Guidelines*, is unwarranted.

IV. Rate Reduction Methodologies I: Rate Prescription as a Direct Product of SAC Analysis

My analysis of the implications of the economics of contestable markets for rates and revenue on cross-over traffic makes it clear that the principles of contestability provide relatively straightforward guidance on how to establish cross-over revenues and on how to avoid gaming by complainants when they design SARRs. At the same time, answering the question of proper cross-over revenue answers the question of the proper CMP revenue for the issue traffic. In the case of the LRR, the proper CMP revenue emerges directly as the difference between the LRR's total costs and the aggregate revenue attributable to the LRR's non-issue traffic (which is entirely cross-over traffic in this case). This difference between total costs and total revenue from non-issue traffic (if positive) is the amount of revenue that the issue traffic would have to generate in order for the LRR to be able to stand alone and survive by realizing revenues that cover expenses plus a reasonable return on capital. If the associated rate for the issue traffic is less than the challenged rate, then a rate reduction to the issue traffic rate is warranted under SAC analysis.

The reason that SAC rates on cross-over traffic and SAC rates needed from the issue traffic both fall out directly and simultaneously from the application of the economics of contestability under the *Guidelines* is because these economics go directly to the question of prices that competitive behavior under contestability would yield. And prices (rates) are the ultimate objective of SAC analysis. No further inquiry into some separate rate reduction methodology is called for; the SAC rate for the issue traffic is a direct end product of application of contestability economics. An example illustrates the result: Suppose that a LRR-type SARR (i.e., with its only through traffic being the challenged traffic and the remainder being cross-over traffic) had total costs (fixed and variable) of $1,000,000, and that application of the contestability standard yielded revenues on cross-over traffic equal to the incumbent's avoided costs of, say, $950,000. No further revenue allocation rule need be applied to the cross-over traffic; cross-over traffic yields $950,000 in revenue. It follows then that the issue traffic must yield $50,000 in order for the SARR to break even and survive as a stand alone railroad. If the challenged rate on the issue traffic were to generate, say, $60,000 in revenue, a rate reduction to the SAC revenue level of $50,000 would be called for. On the other hand, if the challenged rate on the issue traffic were to generate, say, $40,000, no rate reduction would be warranted. No rule like "percentage reduction" is needed by or emanates from the application of contestability under the *Guidelines.*

BNSF witness Baranowski summarizes the results of applying the foregoing economics to the LRR in BNSF Reply Exhibit III.H-1. In the underlying analysis, cross-over revenues are valued at BNSF's avoided cost, utilizing URCS-based measures as the proxy for such costs. Reasonable parameters for the LRR's structure, costs, and operations are then used to derive the difference between total costs and all revenue "realized" on LRR's non-issue traffic. This residual *is* the SAC revenue that the issue traffic would have to generate to make the LRR break even and stand alone as a sustainable railroad. Comparing this SAC-needed revenue on the issue traffic to the revenue expected to be generated under BNSF's challenged rate produces a negative number in each year. That is, when SAC revenues from cross-over traffic are looked at in a framework that is consistent with the economics of the *Guidelines*, BNSF finds that its proposed rates on the issue traffic do not exceed the SAC-defined reasonable maximum. This consistent application of the economics of the *Guidelines* and SAC analysis avoids the nonsensical conclusions embodied in the claimants' analysis and approach. It is the answer that flows from the *Guidelines*.

V. Rate Reduction Methodologies II: Competing Alternatives to the Economic Principles of the *Guidelines*

Recent SAC proceedings have not relied upon the economics of contestable markets embodied in the *Guidelines* to address issues related to SARR revenues on cross-over traffic and the appropriate rate reduction if SARR revenues exceed SAC. Instead, these cases have employed rate reduction methodologies divorced from the economics of contestability that operate by (1) finding an aggregate amount, if any, by which total SARR revenues exceed total SARR costs (with non-issue revenues for cross-over traffic movements calculated on the basis of MSP), and (2) if an excess is found, using the "percent reduction" method to determine the amount by which the issue traffic rates should be reduced as a result.[34]

The percent reduction method has been used in every SAC proceeding since the ICC's decision in *Coal Trading,*[35] and until recently has been accepted as an appropriate mechanism by railroads and shippers alike. In adopting this rate reduction procedure in *Coal Trading*, the ICC observed that "[t]he rate structure exhibited by the defendants over the complaint period is the necessary consequence of differential pricing and cost of service. Any revision to rates due to the imposition of rate prescriptions should, to the extent possible, retain the underlying relationships. Thus, overcharges must be distributed to the SARR traffic group in a manner which will not substantially change rate relationships and, thus, disrupt the existing pattern of differential pricing unless it is demonstrated that the pattern is seriously flawed."[36] The ICC and the Board have

[34] *CP&L/NS Decision* at 30-31, 33; *Xcel/BNSF Decision* at 36-39.

[35] ICC Docket No. 38301S, Coal Trading Corporation, et al., v. The Baltimore and Ohio Railroad Company, et al. (January 17, 1990) at ¶184 (hereinafter "*Coal Trading*").

[36] *Coal Trading* at ¶170.

repeatedly noted that maintaining existing rate relationships has been a primary goal of the percent reduction methodology.[37]

In several recent cases, however, complaining shippers have argued that a variety of rate reduction methodologies should be substituted for the percent reduction methodology. Significantly, these shippers generally have not taken exception to the fundamental rationale articulated by the ICC when it initially adopted the methodology. Instead, they argue that using the railroad-established rate as the starting point for a rate reduction calculation, as is done under the percent reduction method, facilitates "gaming" of the SAC test by railroads. The Board has recognized the potential that exists for either railroads or shippers to game the SAC process.

As explained in my opening statement, the rate set by BNSF for coal movements to the Laramie River plant reflects BNSF's analysis of the market conditions facing the Laramie River Station and the need for differential pricing, not an effort by BNSF to game the SAC process. Under these circumstances, there is no justification for the Board to abandon a rate reduction methodology that has stood the test of time, particularly because – as is discussed below – the alternatives proposed by the complainants in this proceeding are so substantially flawed.

It is important to recognize, however, that in the area of rate reduction, shippers' increasing reliance on SARR traffic groups dominated by cross-over traffic has introduced a distortion in the application of the percent reduction method. At the time the ICC adopted this procedure in *Coal Trading*, and for several years afterwards, stand-alone cost tests were conducted with little or no cross-over traffic. But as cross-over traffic has come to compose the vast majority of SARR traffic groups in individual SAC analyses, the percent reduction methodology has not adapted. As a result, the percent reduction method – as it is applied today – actually fails to "retain the underlying [rate] relationships," as the ICC and Board intend it to. In subsection A, below, I explain how cross-over traffic introduces this distortion, and I suggest an approach to eliminating that distortion.

[37] *CP&L/NS Decision* at 30-31; *Xcel/BNSF Decision* at 36-37.

As an alternative to the Board's well-established percent reduction method, WFA/Basin in this proceeding propose a novel approach to establishing an issue traffic rate if SARR revenues are found to exceed SAC. This method is referred to as the Revenue Allocation Method ("RAM") by the complainants. As explained in subsection B below, this approach is flawed in concept and is inconsistent with the economic principles that led the ICC to adopt CMP and the stand-alone cost test in the first instance.

As a "fallback," WFA/Basin propose a second methodology, the Reduced Mark-Up method, although WFA/Basin's opening evidence contains only a few sentences about this methodology. As explained in subsection C, this approach is also fundamentally flawed – and the complainants' evidence gives it such short shrift that it seems they do not seriously stand behind it. If the Board in this proceeding determines not to accept the contestability approach to establishing the revenues the SARR can earn on cross-over traffic that follows directly from the principles of CMP under the *Guidelines* (with its added benefit of rendering moot the need for a revenue reduction methodology), it should employ the percent reduction approach with the modification, described below in subsection A, required to eliminate the distortion caused by extensive use of cross-over traffic.

A. The Percent Reduction Method

1. Cross-Over Traffic Distorts Application of the Percent Reduction Method

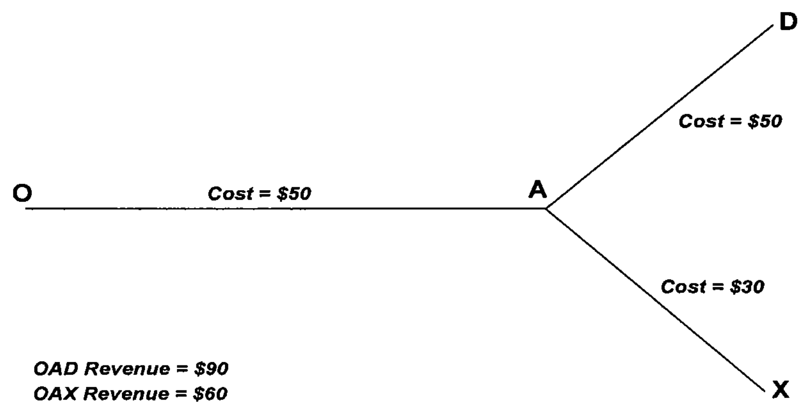
In the marketplace, shippers and railroads make decisions on transportation rates based on the through movement of traffic between each movement's ultimate origin and its ultimate destination. It is the through rate relationships that are observed in the marketplace, and not some formulaic revenue allocations at arbitrary splits in a through movement, that the ICC intended to preserve when it adopted the percent reduction method in *Coal Trading*. The introduction of significant volumes of cross-over traffic into the SAC calculations, however, and the way in which the percent reduction has been applied in those circumstances have introduced a distortion that thwarts the very purpose of the percent reduction methodology. The preexisting rate structure is no longer preserved. Instead, the through rates on issue traffic (and other local traffic, if any) are reduced by a higher percentage than the *through* rates on the cross-over traffic.

A simple example illustrates this point. Consider a network with three shippers – one that is local to the SARR, and two cross-over moves. Assume that the Board found that hypothetical stand-alone revenues exceed stand-alone costs by 20%, and it has applied the percent reduction method to reduce rates on this SARR with significant cross-over traffic.

	Revenues Before 20% Reduction			Revenues After 20% Reduction		
	SARR Revenue	Residual Incumbent Revenue	Total Revenue	SARR Revenues	Total Revenues	Percent Reduction on Through Rate
Local Movement	$100	$0	$100	$80	$80	20%
Cross-Over Move #1	$50	$50	$100	$40	$90	10%
Cross-Over Move #2	$10	$90	$100	$8	$98	2%

The rate for the local movement would be reduced by 20% since all of its revenue is captured by the SARR. But for cross-over moves, the lower the mileage of the movement over the SARR is, the smaller the allocation of revenue to the SARR under MSP is, and the lower the *overall* rate reduction on the movement is. In the example, the movement with only $10 of revenue allocated to the SARR has its *through* rate reduced by only 2%, as compared to the movement with $50 of revenue allocated to the SARR, which has its *through* rate reduced by 10%. (Note that for both movements, the rate reductions are less than the hypothetical prescribed 20% reduction.) The through rates of the two cross-over movements, equal before the rate reduction, are no longer the same after the rate reduction. In short, the current percent reduction approach applied to SARRs that include cross-over traffic destroys the rate relationships that can be observed in the market, rather than preserving them as the Board (and the ICC before it) previously stated is the intention.

To minimize the distortion to preexisting rate structures when cross-over traffic is involved, the percentage reduction should be calculated using the entire through rate rather than just the SARR's portion of the through rate. Consider the following hypothetical example of a simple rail network to clarify BNSF's proposed modification to percent reduction.



Traffic moving from O to D is the issue traffic; the incumbent consists of OA, AD, and AX; and the SARR proposes to build and market itself as the replacement for OAD. That is, if successful in the contestable market, the SARR replaces the incumbent on sections OA and AD. The issue traffic on OD shares line segment OA with another movement from O to X. The SARR is treated here as moving the non-issue OX traffic as cross-over traffic, handling it from O to A, at which point it is interlined with the residual incumbent for movement to X.

Assume that the issue traffic on OAD generates revenues of $90 at existing rates, while OAX traffic (a segment of which is going to become cross-over traffic if the SARR successfully competes only for non-issue traffic as cross-over traffic) generates *through* revenue of \$60 at existing rates. Suppose, in addition, that MSP allocates \$40 of the \$60 of through revenue from the cross-over traffic to the SARR, leaving the residual incumbent with an allocation of \$20 of revenue for its portion of the cross-over traffic. Finally, assume that costs of operating the OA and AD segments are each \$50, and the operating costs of the AX segment is \$30. With these assumptions in mind, if the SARR were to replicate the entire system, SAC revenues (\$90 + \$60 = \$150) would exceed SAC costs (\$50 + 50 + \$30 = \$130) by \$20 – implying the need for a rate reduction of 13.3% (\$20/\$150). Correspondingly, the issue traffic rate would be reduced by \$12, from \$90 to \$78, and the OAX rate would be reduced by \$8, from \$60 to \$52, for a total reduction of \$20 – just enough to eliminate the \$20 overcharge. Note, also, that the existing OAD/OAX rate relationship (\$90/\$60 = 1.5) remains after application of the percent reduction (\$78/\$52 = 1.5).

On the other hand, if the SARR is constructed to rely on cross-over traffic by building only the OAD segment, then revenues would be \$130 (\$90 + \$40), and stand-alone costs would be \$100 (\$50 + \$50). Under the current approach to applying the percent reduction method, the overall reduction is calculated by dividing the overage (\$30, in this case) by the total revenues earned by the OAD SARR (\$130 in this case), to yield a rate reduction of 23.1% (\$30/\$130). Under these circumstances, the issue traffic rate is reduced by \$20.77, from \$90 to \$69.23, and the SARR portion of the OAX rate is reduced by \$9.23, from \$40 to \$30.77. This is a combined reduction of \$30, sufficient to just offset the \$30 overage, but note that the issue traffic rate has declined by 23.1%, while the OAX through rate of \$60 has declined by only 15.4% (\$9.23/\$60). Because the percent reduction varies with the portion of the traffic that is moved over the SARR, the OAD/OAX rate relationship falls from 1.5 (\$90/\$60) to 1.36 (\$69.23/\$50.77). Thus, when cross-over traffic is involved and the percent reduction is calculated by including in the denominator only the SARR portion of revenues for cross-over traffic movements, the existing rate relationships are destroyed.

In short, if MSP allocates too little revenue to cover the costs of the residual incumbent (here, the AX segment), and too much revenue to the cross-over segment (here, the OA segment), the percent reduction calculation is distortive. Note, also, that if the MSP acted in the opposite way by allocating revenue to the residual incumbent that exceeds the residual incumbent's costs, i.e., by allocating only $20 to the OA segment and $40 to the AX segment, the SAC proponent would have the incentive to expand its network by building the AX segment. Even under the arbitrary MSP revenue allocation approach it would obtain $40 in additional revenue and incur only $30 in excess costs, thereby increasing both the total overcharge and the overall level of the rate reduction. This fact is important, as discussed below.

a) BNSF's Recommended Modification of the Percent Reduction Method in the Presence of Cross-Over Traffic

BNSF contends that when cross-over traffic is involved, the percent reduction approach, if it is used, should be calculated by dividing the overage of SAC revenues minus SAC costs by the sum of the *through* revenues for *both* local and cross-over traffic, *not* by the SARR revenues, which include only the SARR's portion of the through revenues on each cross-over movement. In our example, this would require dividing the alleged overcharge ($30) by the total through revenues ($150), for a percent reduction of 20%. This would reduce the issue traffic rate by $18, from $90 to $72, and it would reduce the through rate on the OAX movement from $60 to $48, for a total reduction of $30 – sufficient to entirely offset the $30 overage that was calculated. But under BNSF's approach, the rate relationship that existed prior to the revenue reduction ($90/$60 = 1.5) remains after the rate reduction ($72/$48 = 1.5).

Note that BNSF's recommendation does not completely eliminate the distortion in the SAC result caused by permitting the use of cross-over traffic because the $30 overage calculated on the basis of the cross-over traffic scenario overstates the $20 overage that truly exists in the full SARR, *i.e.*, the numerator in the percent reduction calculation is overstated. Nevertheless, it does reduce the overall level of distortion by forcing the denominator in the percent reduction calculation to conform to the denominator that would exist if the full SARR were built. In the example, the modification to the percent reduction proposed by BNSF results in an issue traffic rate reduction of $18, which is still higher than the $12 that would result if the full SARR were built; but it is lower than the

$20.77 reduction in issue traffic revenues that results by applying the current percent reduction approach.

As the following table demonstrates, BNSF's modified percent reduction reduces the distortion in rate prescription as long as the MSP attributes revenues to the residual incumbent's operations (the AX segment) that are less than the incremental costs of that segment. It entirely eliminates the distortion when the revenues allocated to the residual incumbent's operation exactly equal the incremental costs.

	Percentage Reduction		
Amount Allocated to Residual Incumbent AX Segment	Full SARR	OAD SARR Using Traditional Percent Reduction	OAD SARR Using Modified Percent Reduction
$10	13.3%	28.6%	26.7%
$15	13.3%	25.9%	23.3%
$20	13.3%	23.1%	20.0%
$25	13.3%	20.0%	16.7%
$30	13.3%	16.7%	13.3%

Returning to the example, the percent reduction calculated when the SARR is built out to cover the full network of the incumbent is the amount by which the SAC revenues exceed SAC costs ($20), divided by *through* revenues on movements of both issue traffic and cross-over traffic ($150). This would reduce rates by 13.3% ($20/$150). Rates on the issue traffic would be reduced by $12 from $90 to $78. Rates on cross-over traffic would be reduced $8 from $60 to $52. Consistent with the Board's stated goal of preserving relative rate relationships, the structure of rates is preserved ($78/$52 = 1.5, the same relative relationship as $90/$60). Furthermore, the total reduction in revenues is equal to the total SAC overcharge of $20 ($12 + $8). The overall system is able to just cover its costs.

b) The Underlying Economic Basis for BNSF's Proposed Modification

The modification to the percent reduction method that BNSF contends is required to minimize the distortion caused by relying on cross-over traffic while conforming to the ICC/STB goal of maintaining existing rate relationships is economically logical. Specifically, preservation of rate relationships requires that the same percentage rate reduction, if any is needed, be applied to all *through* rates – issue traffic, non-issue through traffic, and the combined portions of fragmented cross-over traffic that constitute the rate for through movements of such traffic. By contrast, in the presence of significant volumes of cross-over traffic, the way the percent reduction is currently applied substantially distorts the existing rate relationships.

The complainants might respond that the assumption implicit in the current approach is that the percent reduction that is calculated really applies to the *through* revenues paid by cross-over traffic, not just the SARR portion of those revenues. In our example above, in other words, the argument would be that the 23.1% reduction really applies to the $60 through revenue for the OAX move, not just the $40 of OAX revenue that is attributed to the SARR. But that would increase the overall reduction above the $30 overage calculated for the SARR, to $34.62. This would be reasonable only if MSP allocated revenues to the residual incumbent (here, the AX segment) that exceeded the incremental, avoidable cost of operating that segment.

We know that is not the case in our example. The $20 allocated to the AX segment is actually $10 below the $30 cost to operate the segment, which is why the overage for the full SARR is only $20, while the overage for the OAD SARR is calculated as $30. But it is reasonable for the Board to presume that this is true more generally for cross-over traffic because, as noted above, proponents of a particular SARR configuration would have a powerful incentive to build out the equivalent of the AX segment if incremental revenues from building out the segment exceeded the cost of doing so. If they choose not to, it is generous to presume that incremental revenues from expanding the system would just equal the incremental costs of doing so – which would mean that the "overage" calculated for the SARR portion of a cross-over traffic movement is also the "overage" associated with the through rate. And we demonstrate in the above table that under those circumstances, the modification to the percent reduction advocated by BNSF, when cross-over traffic is present, would generate a rate reduction for the issue traffic identical to the rate reduction created by building the full SARR, thereby eliminating this distortion.

Given the choice of the SARR by the complainants and the Board's finding of an overcharge in revenue, the modified percent reduction methodology set out here preserves the relationship between rates while reducing the total overcharge by an amount that is consistent with the reduction necessary to bring revenues in line with cost – *without* making an irrational assumption that there are additional "overcharges" that the complainants could have taken into account if they had only built a larger SARR.

2. Purported Railroad Gaming

The complainants claim that "gaming" by the railroads makes the common carrier tariffs issued by the railroads an unreliable starting point for the Board's rate-setting exercise.[38] Railroads, the shippers claim, can determine the outcome of the process by setting the starting rates arbitrarily high, and application of the calculated percentage reduction to a railroad's challenged rates is asserted to be "an open regulatory invitation from the Board to the railroad industry to set whatever rates the industry wants."[39] The claim that BNSF has set arbitrarily high rates ignores that fact that the challenged tariff rates set by BNSF are not set arbitrarily; they are commercially reasonable rates that were set with regard to marketplace conditions.

As I discussed in my opening testimony and is further discussed in the Verified Statement of BNSF witness Robert Brautovich, rates prior to the challenged increase had been set pursuant to a 1984 legal settlement that left rates below and insulated from

[38] WFA/Basin Opening Evidence at III-H-10 to 13.

[39] WFA/Basin Opening Evidence at III-H-12.

market-determined rate levels. Moreover, the demand for coal and the concomitant demand for coal transportation have been particularly strong recently, and (as I explained) rising demand relative to supply of coal transportation services should be expected to put upward pressure on rail rates in a well-functioning marketplace. In addition, BNSF concluded that the demand-based rates that it could charge for the movement of coal from the PRB to Laramie River Station were substantially higher than the expiring contract rate.[40] This is an indication that, given the overall constraints of the SAC analysis, the rates are a reasonable starting point for a revenue-inadequate railroad such as BNSF.

As is discussed above and shown in BNSF Reply Exhibit III.A-3, the evidence in this case is that the complainants' finding of a reduction in rates is being driven not by purported railroad gaming, but by complainant gaming. The complainants, by their selection of cross-over traffic and their application of revenue allocation rules, are taking advantage of rules that generously over-allocated revenue to cross-over traffic. The implication of the complainants' choices, as is shown in Exhibit III.A-3, is that the entirety of the SARR is paid for by cross-over traffic. Indeed, even when rates for the issue traffic are reduced to zero, the complainants would calculate that a rate reduction is required. This is clearly not the result of purported railroad gaming.

3. Results of Implementing BNSF's Modified Percent Reduction Methodology

For illustrative purposes, BNSF witness Baranowski has calculated the implied percent reduction using the method that the Board has applied in previous cases and compared this to the reduction generated using BNSF's proposed modification, which is needed to preserve relative rate relationships. The calculation shows that, using WFA/Basin's opening evidence modified to correct the issue traffic revenue, under the current Board methodology the percent reduction to the issue traffic rate is 42%. Using the same cost and revenue allocation assumptions, but changing the percent reduction method to use *through* traffic revenues as the basis for reducing rates, the implied

[40] See Verified Statement of Robert A. Brautovich (BNSF Reply Exhibit III.A-5), at 2-5.

reduction on the issue traffic falls to approximately 7%.[41] This large difference demonstrates the very significant impact that getting the rules "right" (or at least consistent with stated policy objectives) on cross-over rates and revenue allocations has on outcomes under SAC tests.

B. The Complainants' Proposed Rate Reduction Methodology: Revenue Allocation Method

Citing purported defects in the percent reduction method with regard to the possibility of railroad "gaming," the complainants propose an alternative method for determining the adjusted rates: the Revenue Allocation Method, or "RAM." RAM allocates joint and common SAC costs (that is, SAC costs above the asserted variable cost of each movement) across different groups of traffic based on methods that the complainants claim are consistent with Ramsey pricing. After dividing the SARR traffic's shippers into two groupings ("competitive" and "captive"), the complainants assume that the price elasticities of demand are identical within each group of shippers.[42] In setting the rates, the "competitive" group pays only its variable cost, making no contribution at all to joint and common costs. All of the joint and common costs are allocated – on the basis of ton-miles – to the shippers in the "captive" group. The rates for each movement under this method are the sum of the movement's variable costs and its allocated share of joint and common costs.[43]

Notwithstanding assertions of the complainants, the resulting RAM rates are sharply at odds with Ramsey pricing principles. Let us see why.

1. Ton-Miles Are an Arbitrary Mechanism for Allocating Joint and Common Costs to Individual Movements

An inherent problem with the RAM approach is that within the group of "captive" traffic, the complainants have employed ton-miles as the basis for "allocating" a

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[41] See BNSF reply electronic workpaper "Exhibit_III-H-1R Through Revs.xls".

[42] To the extent that any of the shippers are incorrectly classified in the captive group, this would decrease the allocation to the issue traffic by spreading joint and common costs over a larger group of shippers. The RAM method can be quite sensitive to how shippers are classified.

[43] Subject to an imposed constraint on the allocation of joint and common costs to ensure that the rate assigned to each plant does not exceed its actual rate.

contribution (SARR revenue requirement minus "variable costs," or joint and common costs) requirement to each of the shippers. This method of allocating joint and common costs is inherently arbitrary because it does not recognize that demand elasticities vary across plants. In a number of prior rulings, the Board has rejected allocating costs on the basis of ton-miles.[44] Unless all of the members of this group of utility plants have identical demand characteristics, this approach does not allow for demand-based differential pricing. As recognized in the *Guidelines,* "non-demand-based cost apportionment methods do not necessarily reflect the carrier's ability (or inability) to impose the assigned allocations and cover its costs."[45] When elasticities vary among a group of plants, if a railroad attempted to collect a rate that was based on an average contribution amount per ton-mile across all plants, some of the traffic of the more price-sensitive shippers would shift to other options, thus leading to under-collection of revenues that would have to be made up from other customers.

In fact, the only reason that RAM and the ton-mile allocation of contribution can be implemented is because the complainants are willing to assume that traffic falls into two groupings: one which bears no allocation of contribution and one which bears all of the contribution, allocated proportionally to ton-miles. Under this approach, the shippers responsible for joint and common costs each contribute exactly the same amount per ton-mile to cover those costs. To the extent, as discussed in the next section, that the captive group cannot be treated as a monolith with equal elasticities or that the competitive shippers should bear some (however small) portion of contribution, the ton-mile allocation cannot be used as the basis for allocating contribution and thus determining prices. And without this assumption, RAM falls apart.

2. Bifurcated Allocation of Shippers Does Not Reflect Economic Differences in Shippers

At the foundation of WFA/Basin's bifurcation of shippers into "captive" and "competitive" groups is the assumption that all the shippers within each grouping have equal demand elasticities. Beyond classifying traffic into two broad groups, the

[44] *Coal Trading* at ¶39-40; CP*&L/NS Decision* at 33.

complainants have not provided any evidence to support the assumption that the elasticity of demand is identical across all of the shippers in either the "competitive" or the "captive" grouping.

In the *Guidelines*, the ICC recognized that joint and common costs must be recovered from individual movements using the principles of differential pricing. Ramsey prices include a mark-up above the long-run marginal cost to cover joint and common costs in inverse proportion to each shipper's demand elasticity. That is, shippers who are very sensitive to changes in prices (high elasticity) will pay prices that are relatively close to the marginal costs of serving them, while shippers whose demands are less sensitive to price changes (low elasticity) will pay prices much higher than their marginal costs. With Ramsey pricing, the mark-ups over long-run marginal cost for each shipper sum up to the total joint and common cost. Moreover, Ramsey pricing requires every movement with demand elasticity which is not infinite – that is, realistically, every movement – to make some contribution above long-run marginal costs to the joint and common costs of the SARR network. WFA/Basin's RAM approach is entirely inconsistent with Ramsey pricing, since it requires only the "captive" shippers to help defer joint and common costs.

While the ICC recognized that Ramsey pricing is a useful theoretical guideline, it also recognized that the data requirements (for example, movement-specific marginal costs and elasticities of demand) are too burdensome for universal application.[46] The Board has, instead, indicated that it will consider qualitative evidence on relative demand elasticities in implementing CMP, concluding: "We are satisfied that the constraints and incentives CMP contains should lead to rates approximating Ramsey prices."[47] However, WFA/Basin does not present qualitative (or quantitative) evidence on differences across shippers. Instead, the complainants justify the assumption of equal elasticity for all plants based on the simple-minded point that all of the utility plants in the "captive" group use

[45] *Coal Rate Guidelines* at 526.

[46] *Coal Rate Guidelines* at 527.

[47] *Coal Rate Guidelines* at 527.

BNSF-supplied PRB coal and are solely served by BNSF at either the origin or the destination.[48]

This description vastly oversimplifies the complexities of electric generation. Individual utilities have their own set of reasonable alternatives available to them for meeting the demands of their customers, and the presence of these alternatives affects how elastic the demand of any particular utility is. A railroad could find itself facing multiple sources of "product" or "geographic" competition on the margin. Sources such as other fuels, a utility's other plants, or a utility's ability to buy power from others on the electricity grid all provide a source of competition to railroad-delivered coal to a particular plant. Such factors affect a plant's elasticity of demand for coal transportation, and they can vary substantially from plant to plant and buyer to buyer. Similarly, some power facilities have the ability to burn other types of fuel in addition to or as a substitute at the margin for rail-transported coal, and power producers can hold a portfolio of plants, giving them the ability to substitute power from different plants, either within the same utility or from other plants that are connected to the grid, to serve their customers' needs.

To the extent that a utility has an ability to switch between sources of fuel and/or sources of power within its portfolio, it can use this competitive discipline vis-à-vis the railroad(s) from which it gets service. For example, a utility may negotiate a deal with a railroad where rates at a solely-served plant are linked to rates at a competitively-served plant. Another buyer may not have this ability or option. The ability to switch fuels, or to acquire power needed to meet the demand of its customers by purchasing electricity in the wholesale market or by acquiring power at another plant owned by the same utility, provides alternatives that make a shipper more sensitive to increases in the cost of rail transportation. The amount of flexibility a utility has to swing toward or away from the coal-fired plant to meet its needs affects its elasticity.

Qualitatively, Laramie River Station has attributes that are likely to make its demand for PRB coal relatively inelastic compared to other shippers in the complainants' "captive" group. These characteristics include its proximity to the Powder River Basin,

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48 WFA/Basin Opening Evidence at III-H-23, III-H-25 to III-H-28.

its low cost of production,[49] and its lack of access to alternative fuels. Relatively inelastic demand implies relatively higher rates under Ramsey principles. Mr. Brautovich's discussion of BNSF's relationship with Laramie River Station bears out these implications.

In summary, the complainants have presented differences across plants in only the most rudimentary way. Moreover, as discussed above, their approach is dependant on notably unrealistic assumptions. The RAM approach presented by the complainants fails as a simplified surrogate for Ramsey pricing.

C. The Complainants' "Fallback" Rate Reduction Methodology (Reduced Mark-Up Method)

As an apparent "fallback" to RAM, the complainants present an alternative method for adjusting rates, claiming that it demonstrates that RAM results are reasonable. However, this Reduced Mark-Up Method is based on an unsound analytical framework and cannot be relied on.

As an initial matter, the glaring conceptual differences between the Reduced Mark-Up Method and RAM underscore the lack of any principled basis for the complainants' proposals on this issue. Under RAM, as noted above, all of the SARR traffic movements are organized into one of two groups – "competitive" traffic, which is assumed to be so demand-elastic that it cannot afford to pay *any* of the SARR's joint and common costs, and "captive" traffic, movements which are assumed to have identical elasticities of demand that enable them to pay whatever portion of the SARR's joint and common costs are allocated to them. In contrast, the Reduced Mark-Up Method assumes that there is a wide spectrum of demand elasticities for the SARR traffic movements – as indicated by the wide range of revenue-to-variable cost relationships WFA/Basin calculate – and that each movement is capable of providing some contribution to the SARR's joint and common costs. Both of these approaches cannot be right, yet WFA/Basin seek to imply that they are somehow conceptually consistent.

[49] See BNSF Opening Evidence at II-27 to 28 and Exhibits II-C-2 and II-C-3.

The single most glaring flaw in the Reduced Mark-Up Method is its assumption that the one can infer relative demand elasticities for each cross-over traffic movement by comparing the portions of the through revenues allocated to the SARR using MSP for each movement to the "variable costs" calculated by WFA/Basin for only the cross-over portion of each movement. As noted earlier, a shipper's decision to move freight at a particular price is a function of the alternatives it has to move traffic from ultimate origin to ultimate destination. These elasticities of demand can only be evaluated by comparing the revenues the shipper pays for end-to-end transportation (not the revenue allocated to a portion of an end-to-end movement using a formula that entirely ignores demand) to BNSF's long-run marginal costs of handling that movement end-to-end.

WFA/Basin's Reduced Mark-Up Method does not perform these calculations based on through rates, and it therefore cannot reliably measure, or even "ball park," the relative demand elasticity for any of the movements in the SARR traffic group.[50] Without this capability, the Reduced Mark-Up Method is not meaningful, and certainly cannot be presumed to be consistent with Ramsey pricing principles. The prices upon which customers' demand decisions are based are necessarily through rates, yet the revenue for the SARR portion of each cross-over traffic movement is determined by the MSP revenue allocation, which does not and cannot reflect relative demand.[51]

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[50] In addition, there are flaws in WFA/Basin's cost calculations. Most importantly, they do not rely upon BNSF costs, but on WFA/Basin's efforts to force its SAC calculations into something akin to a LRR URCS cost. Since BNSF set its rates with reference to its own costs, not some hypothetical costs for the LRR developed for litigation, it is unlikely that ratios of revenues to the LRR costs that WFA/Basin have developed indicate anything about demand elasticities, even if the SARR were expanded to include the full BNSF route for every cross-over traffic movement.

[51] An easy way to illustrate this problem is to consider what would have happened to "demand elasticities" implicit in the Reduced Mark-Up Method when the STB shifted from the modified mileage prorate, which was previously used to allocate through revenues to the SARR portions of cross-over movements, to the MSP. Because the change to MSP generally reduced the revenues assigned to cross-over traffic, particularly on cross-over traffic that moved for only a short distance on the SARR, while costs would remain unchanged, this change had the effect of reducing the revenue-to-variable cost ratios on many cross-over traffic movements. The Reduced Mark-Up Method – which looks at only the SARR revenues and costs – would conclude that these movements had suddenly become more demand elastic (because they would exhibit lower revenue-to-cost ratios) even though the revenue cost ratios for the through movement – the only rates actually negotiated in the market – would remain completely unchanged.

Similarly, the "variable cost" calculations relied upon by WFA/Basin to implement the Reduced Mark-Up approach are not sufficiently precise to be meaningful. If reliable demand elasticities could be inferred by reference to a one- or two-quarter snapshot of existing rate levels, and comparison to the sort of "SARR system average" variable costs that WFA/Basin propose here, nothing would have prevented the Board (or the ICC before it) from calculating demand elasticities and implementing Ramsey pricing long ago. But as the Board and the ICC have consistently recognized, average variable cost calculations and short-term rate levels are not sufficiently precise to generate reliable long-run estimates of demand elasticity. As a result, the reliability of WFA/Basin's Reduced Mark-Up approach – even if it were based on through revenues and costs – would have to be rejected for all of the reasons the Board originally rejected direct calculation of Ramsey prices in favor of CMP and the stand-alone cost test.

Executed on July 11, 2005

Joseph P. Kalt

BNSF Reply Exhibit III.A-2

Exhibit Redacted

HYPOTHETICAL PERCENTAGE REDUCTION TO LRS SAC RATES USING DIFFERENT 4Q04 STARTING RATES

Starting LRS Rate ($ / ton)	% Reduction	LRS 4Q04 SAC Rate ($ / ton)
$9.00	44.3%	$5.01
$8.00	42.8%	$4.58
$7.00	41.2%	$4.11
$6.00	39.6%	$3.63
$5.00	37.8%	$3.11
$4.00	35.9%	$2.56
$3.00	34.0%	$1.98
$2.00	31.9%	$1.36
$1.00	29.6%	$0.70
$0.50	28.4%	$0.36
$0.25	27.8%	$0.18
$0.00	27.2%	$0.00

Sources: WFA electronic workpapers "Exhibit_III-H-1R.xls" and "LRR Traffic and Revenues_WFABasinOpening.xls".

SERIAL BUILD-OUT OF SEGMENTS ADJACENT TO LRR

	Scenario	Total Route Mileage	2005 SAC Costs (milions)	2005 SAC Revenues (millions)	Over (Under) Charges	2005 Percent Reduction
	WFA/Basin LRR*	218	$192	$331	$139	42%
#1: Extend to the South	LRR + Guernsey to Sterling	395	$305	$420	$115	27%
#2: Extend to the East	LRR + Guernsey to Sterling + Donkey Creek to Lincoln	982	$920	$952	$32	3%
#3: Extend to the West	LRR + Guernsey to Sterling + Donkey Creek to Lincoln + Campbell to Huntley	1220	$980	$985	$6	1%

Note: *Issue traffic revenues corrected to include CCPA adjustment and fuel surcharge.
Source: BNSF Reply electronic workpaper "LRR adjacent segments.xls" worksheet "summary".

SURFACE TRANSPORTATION BOARD
STB Docket No. 42088

WESTERN FUELS ASSOCIATION, INC. and
BASIN ELECTRIC POWER COOPERATIVE, INC.
v.
BNSF RAILWAY COMPANY

Verified Statement of
Robert A. Brautovich

My name is Robert A. Brautovich. I am the Assistant Vice President, Coal Marketing West, for BNSF Railway Company ("BNSF"). I have been employed in the Coal Marketing Group of BNSF and its predecessor Burlington Northern Railroad Company since 1992 in the positions of Manager, Coal Marketing, Director of Coal Marketing, and Assistant Vice President, Coal Marketing West. In my Coal Marketing Group positions, I have been responsible for managing specific coal customer accounts and now a geographic territory that includes the account with Western Fuels, Inc. ("Western Fuels") for the Laramie River Generating Station ("Laramie River") in Moba, Wyoming which is owned by Basin Electric Power Cooperative ("Basin Electric").

In my Coal Marketing Group positions, I became familiar with the now expired 20-year contract between Western Fuels and BNSF that governed the transportation of coal from the Powder River Basin ("PRB") to Laramie River from October 1984 through September 2004. In addition, I was involved in BNSF's attempt to negotiate a new contract with Western Fuels for transportation to the Laramie River plant in 2003 and 2004, and BNSF's development of a common carrier pricing authority for Laramie River when the parties' efforts to negotiate a new contract were unsuccessful.

The purpose of my statement is to respond to the rhetoric in Western Fuels' opening evidence regarding the "outrageously high tariff rates" that BNSF purportedly established for the issue traffic upon expiration of the Laramie River contract. I will explain the commercial background to BNSF's setting of the rates at issue and why those rates are a reasonable response to market forces.

BNSF established the common carrier rates for the movement of coal from the PRB to the Laramie River generating plant, effective October 2004, at a commercially reasonable level. In establishing that common carrier rate, BNSF's goal was to take into account a variety of commercial and market-related factors, including the historical circumstances of the movement at issue, the shipper's demand for the service, its ability to pay the rates, the characteristics of the movement, the demand for rail services out of the PRB, increasing demand for PRB coal, and operating conditions in the PRB.

In analyzing the market, BNSF concluded that a significant increase in the expired Laramie River contract rate was warranted for the following reasons.

First, BNSF concluded that the October 2004 expired contract rate was significantly below market for several reasons, including that {

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Second, BNSF considered the fact that when the Laramie River contract expired as of October 1, 2004, demand for PRB coal as well as BNSF's coal transportation services out of the PRB was very high. PRB coal production has increased from about 100 million tons per year in 1980 to nearly 500 million tons in 2004. Demand for BNSF's coal transportation rose dramatically in the last few years. The average number of coal trainsets in BNSF service increased from about 270 in January 2003 to almost 390 in December 2004. Such increasing demand has resulted in the need for significant capital investments. From 1994 through 2004, BNSF invested $2.4 billion in coal-related capacity and, in 2004 alone, BNSF invested $243 million in coal-related capacity. The recent high demand for PRB coal and PRB coal transportation services, with the corresponding need to increase capital investment, has led BNSF to seek higher PRB coal transportation rates.

Third, BNSF's review of information regarding Laramie River's position in the marketplace showed that Laramie River was doing very well compared to other coal-fired plants that it competed with, which was another indication that Laramie River's rail rate was below market. Specifically, BNSF compared Laramie River's delivered cost of fuel with the delivered cost of other coal-fired plants in the WECC region, which includes the states of Wyoming, Montana, Colorado, Utah, New Mexico, Arizona, Nevada, and Oregon. Laramie River's delivered cost of fuel was the second lowest of the 37 coal-fired plants in that NERC region.[1] BNSF also compared Laramie River's delivered cost of fuel with that of other coal-fired plants in a somewhat different group of states; namely, Montana, Wyoming, Nebraska, North Dakota, South Dakota, Colorado and Utah (hereafter referred to as the "Seven States").[2] Again, Laramie River's delivered cost of fuel was the second lowest of the 40 coal-fired plants considered.[3] Moreover, BNSF compared Laramie River's production costs with the production costs of other coal-fired plants in the Seven States and concluded that Laramie River had the fourth lowest production costs of the coal-fired plants considered.[4] BNSF also compared the capacity factor percentage for the Laramie River plant to the capacity factor percentage for the other coal-fired plants in the Seven States and determined that Laramie River was operating at an 84.85 percent capacity factor which was about tenth among the 40 plants considered.[5]

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[1] BNSF produced this analysis to Western Fuels at BNSF/LR 22906-907 and it is contained in BNSF's electronic workpapers at "fuel analyses.pdf."

[2] BNSF chose these seven states because they include the states that are contiguous to Wyoming, where Laramie River is located, and North Dakota where Basin Electric has many of its other generating facilities.

[3] BNSF produced this analysis to Western Fuels at BNSF/LR 22908-910 and it is contained in BNSF's electronic workpapers at "fuel analyses.pdf."

[4] BNSF produced this analysis to Western Fuels at BNSF/LR 22914-916 and it is contained in BNSF's electronic workpapers at "fuel analyses.pdf."

[5] BNSF produced this analysis to Western Fuels at BNSF/LR 22917-919 and it is contained in BNSF's electronic workpapers at "fuel analyses.pdf."

Fourth, BNSF considered Laramie River's financial condition which was so strong that it indicated that the generating station could absorb a substantial increase in transportation costs without causing any hardships or dislocations. Specifically, Basin Electric, the owner of Laramie River, provided rebates of $140 million to its coop members over the past five years. In 2003 alone, Basin Electric provided a $50 million rebate, which essentially amounted to two months of free electric power to members.

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Based on these factors, BNSF made commercial offers to settle the rate dispute with Western Fuels prior to the expiration of the Laramie River contract that contained rates substantially above the expired contract rate. When Western Fuels rejected these offers, BNSF decided to establish common carrier rates that increased rates in three steps, beginning with rates in October 2004 that would be increased in two subsequent steps until 2007, when cost-based escalation would begin. Given BNSF's review of the market for Laramie River coal transportation rates, BNSF concluded that the common carrier rates established by BNSF for the year 2007, *i.e.* $7.52 for south PRB mines, $7.90 for central PRB mines, and $8.13 for north PRB mines, were commercially reasonable. To avoid dislocations, BNSF decided to phase in these common carrier rates, starting with rates of $5.69, $5.97 and $6.15 in October 2004 and

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[6] *See* BNSF/LR 22920-922, which was produced to Western Fuels and is contained in BNSF's electronic workpapers at "norbridge.pdf.

increasing those rates to $6.54, $6.87 and $7.07 in 2006 for the south PRB mines, central PRB mines, and north PRB mines, respectively.

The common carrier pricing authority that BNSF established for Laramie River contains three separate rates -- one for south PRB mine origins, one for central PRB mine origins, and a third for north PRB mine origins. BNSF decided to establish three separate rates for the Laramie River movements for two reasons. First, the characteristics of the Laramie River movement differ depending upon the PRB mine origin. For example, movements from the northern PRB mines are more than 50 percent longer than movements from the southern PRB mines. Second, BNSF concluded that the rates should be higher for northern mine origins because it imposes an additional cost on BNSF to run PRB trains down from the northern PRB mines through the southern PRB mine region and through Orin Junction. Those northern PRB trains must travel through the loading areas of the PRB mines to the south of them, creating congestion in a region that is already heavily traveled by unit coal trains. A significantly higher rate is therefore warranted for the northern mine origins than for the southern origins.

BNSF's decision to include a fuel surcharge in the Laramie River common carrier pricing authority was also based on the commercial realities of today's market. The fuel surcharge is intended to allow BNSF to recover its fuel costs given the recent extreme volatility in the price of fuel. The problem is not only that fuel prices are skyrocketing but that they are subject to vast swings. Fuel is an important component of BNSF's costs, and it is critical that we develop a pricing mechanism to deal with this volatility. The existing cost indexes with a fuel component have not been adequate to deal with the volatility in the fuel market. BNSF therefore has implemented a mandatory fuel surcharge that allows its revenues to more closely track the frequent changes in fuel costs. BNSF has included the same fuel surcharge that is in the rates challenged in this case in all its other common carrier pricing authorities for coal (except TMPA and Pawnee where the STB set the rates) and in all recent coal contracts.

It is also important to understand that even after the rate increase established by BNSF, on a dollar per ton basis, the Laramie River common carrier rates are lower than almost all of the rates that BNSF charges other customers shipping coal from the PRB. The purchasers of electricity generated by the Laramie River station are still the beneficiaries of relatively low rates for the transportation of coal. No doubt, Laramie River would like to hold onto the financial benefits of the old transportation contract with its below market rates. But the rates BNSF established after that contract expired are reasonable and continue to be a good deal for Laramie River's customers.

I declare under penalty of perjury that I have read the foregoing statement, and that the contents thereof are true and correct.

Executed on July __, 2005

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Robert A. Brautovich

Exhibit Redacted

BNSF Reply Exhibit III.A-7

Exhibit Redacted

BNSF Reply Exhibit III.A-8

Exhibit Redacted

BNSF Reply Exhibit III.D.4-1

Exhibit Redacted

BNSF Reply Exhibit III.F-1

Exhibit Redacted

Exhibit Redacted

Exhibit Redacted

BNSF Reply Exhibit III.H-2

Exhibit Redacted